DSR-PD175P/PD177P/PD198P

RMT-831

SERVICE MANUAL

AEP Model
E Model
Chinese Model

Ver. 1.1 2009.09
Revision History

Revised-1

Replace the previously issued SERVICE MANUAL 9-852-721-11 with this Manual.

Photo: DSR-PD175P

N MECHANISM (MDX-N221)

Link

SPECIFICATIONS	BLOCK DIAGRAMS	REPAIR PARTS LIST
MODEL INFORMATION TABLE	FRAME SCHEMATIC DIAGRAMS	ADJUSTMENTS
SERVICE NOTE	SCHEMATIC DIAGRAMS	
DISASSEMBLY	PRINTED WIRING BOARDS	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Mini DV Digital Video Cassette **DIGITAL CAMCORDER**

SONY®

DSR-PD175P/PD177P/PD198P
9-852-721-12

Sony EMCS Co.

2009I0800-1

© 2009.09

Published by Tokai TEC

These specifications are extracted from instruction manual of DSR-PD175P/PD177P.

SPECIFICATIONS

System

Video recording system (DVCAM (DV))
2 rotary heads, Helical scanning system
Still image recording system
Exif Ver. 2.2*
Audio recording system (DVCAM (DV))
Rotary heads, PCM system
Quantization: 12 bits
Fs32kHz (channel 1/2 stereo),
Quantization: 16 bits
Fs48kHz (channel 1/2 stereo)
Video signal
PAL color, CCIR standards
Usable cassette
Mini DV cassette with the Mini DV mark printed or Mini DVCAM cassette with the DVCAM mark printed
Tape speed (DVCAM)
Approx. 28.221 mm/s
Tape speed (DV SP)
Approx. 18.831 mm/s
Recording/playback time (DVCAM)
41 min (using a PDVM-40ME cassette)
Recording/playback time (DV SP)
63 min (using a PDVM-40ME cassette)
Fast forward/rewind time
Approx. 2 min 40 s (using a PDVM-40ME cassette and rechargeable battery pack)
Approx. 1 min 45 s (using a PDVM-40ME cassette and AC Adaptor)
Viewfinder
Electric viewfinder (color, black and white)
Picture
1.1 cm (0.45 type, aspect ratio 16:9)
Total dot number
1 226 880 (approx. 852 × 3[RGB] × 480)
Image device
6.0 mm (1/3 type) 3CMOS sensor
Recording Pixels (DV16:9 still recording):
Max. 1.20 Mega (1 440 × 810) pixels**
Gross: Approx. 1 120 000 pixels
Effective (movie, 16:9):
Approx. 1 037 000 pixels
Effective (movie, 4:3):
Approx. 778 000 pixels
Effective (still, 16:9):
Approx. 1 037 000 pixels
Effective (still, 4:3):
Approx. 778 000 pixels
Lens
G Lens
20 × (Optical), Approx. 30 × (Digital, when [D.EXTENDER] is set to [ON])
Focal length
f=4.1 - 82.0 mm (3/16 - 3 1/4 in.)
When converted to a 35 mm still camera
29.5 -590 mm (1 3/16 - 23 1/4 in.) (16:9),
36.1 -722 mm (1 7/16 - 28 1/2 in.) (4:3)
F1.6 - 3.4
Filter diameter: 72 mm (2 7/8 in.)
Color temperature
[AUTO]
(one push) A/B
[INDOOR] (3 200K)
[OUTDOOR] (5 800K±7 offset levels)
[MANU WB TEMP] (2 300K - 15 000K in 100K steps)
Minimum illumination
1.5 lx (lux) (Fixed Shutter Speed 1/25, auto gain, auto iris) (F 1.6)

* "Exif" is a file format for still images, established by the JEITA (Japan Electronics and Information Technology Industries Association). Files in this format can have additional information such as your camcorder's setting information at the time of recording.
** The unique pixel array of Sony's ClearVid CMOS sensor and image processing system (Enhanced Imaging Processor) allows for still image resolution equivalent to the sizes described.

Output connectors

A/V Remote Connector
10-pin connector
When A/V connecting cable is connected
Video signal: 1 Vp-p, 75 Ω (ohms)
Luminance signal: 1 Vp-p, 75 Ω (ohms)
Chrominance signal: 0.3 Vp-p (burst signal), 75 Ω (ohms)
Audio signal: -10 dBu (at load impedance 47 kΩ (kilohms)), Output impedance with less than 2.2 kΩ (kilohms) (0 dBu=0.775 Vrms)
(headphones) jack
Stereo-minijack (Ø 3.5 mm)

Input/Output connectors

LANC jack
Stereo mini-minijack (Ø 2.5 mm)
INPUT1/INPUT2 jack
XLR 3-pin, female,
-48 dBu: 3kΩ (kilohms)
+4 dBu: 10kΩ (kilohms)
(0 dBu=0.775 Vrms)
DV jack
i.LINK interface (IEEE 1394, 4-pin connector S100)

LCD screen

Picture
8.0 cm (3.2 type, aspect ratio 16:9)
Total dot number
921 600 (1 920 × 480)

General

Power requirements
DC 7.2 V (battery pack)
DC 8.4 V (AC Adaptor)
Average power consumption
During camera recording using the internal microphone, and the viewfinder with normal brightness:
DVCAM (DV) recording 6.0 W
During camera recording using the internal microphone, and the LCD with normal brightness:
DVCAM (DV) recording 6.2 W
Operating temperature
0 ºC to 40 ºC (32 ºF to 104 ºF)
Storage temperature
-20 ºC to +60 ºC (-4 ºF to +140 ºF)
Dimensions (approx.)
169 × 188 × 401 mm
(6 3/4 × 7 1/2 × 15 7/8 in.)
(w/h/d)
including the projecting parts
Mass (approx.)
2.2 kg (4 lb 14 oz) including the lens hood with lens cover

AC Adaptor AC-L100/AC-L100C

Power requirements
AC 100 V - 240 V, 50 Hz/60 Hz
Current consumption
0.35 A - 0.18 A
Power consumption
18 W
Output voltage
DC 8.4 V***
Operating temperature
0 ºC to 40 ºC (32 ºF to 104 ºF)
Storage temperature
-20 ºC to +60 ºC (-4 ºF to +140 ºF)
Dimensions (approx.)
48 × 29 × 81 mm
(1 15/16 × 1 3/16 × 3 1/4 in.)
(w/h/d)
excluding the projecting part
Mass (approx.)
170 g (6.0 oz) excluding the power cord (mains lead)

*** See the label on the AC Adaptor for other specifications.

Design and specifications are subject to change without notice.

Model information table

Model	DSR-PD175P	DSR-PD177P	DSR-PD198P
Destination	AEP	E	CH

- Abbreviation
  CH : Chinese model

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
Dispose of used batteries according to the instructions.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

Unleaded solder

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

1. SERVICE NOTE

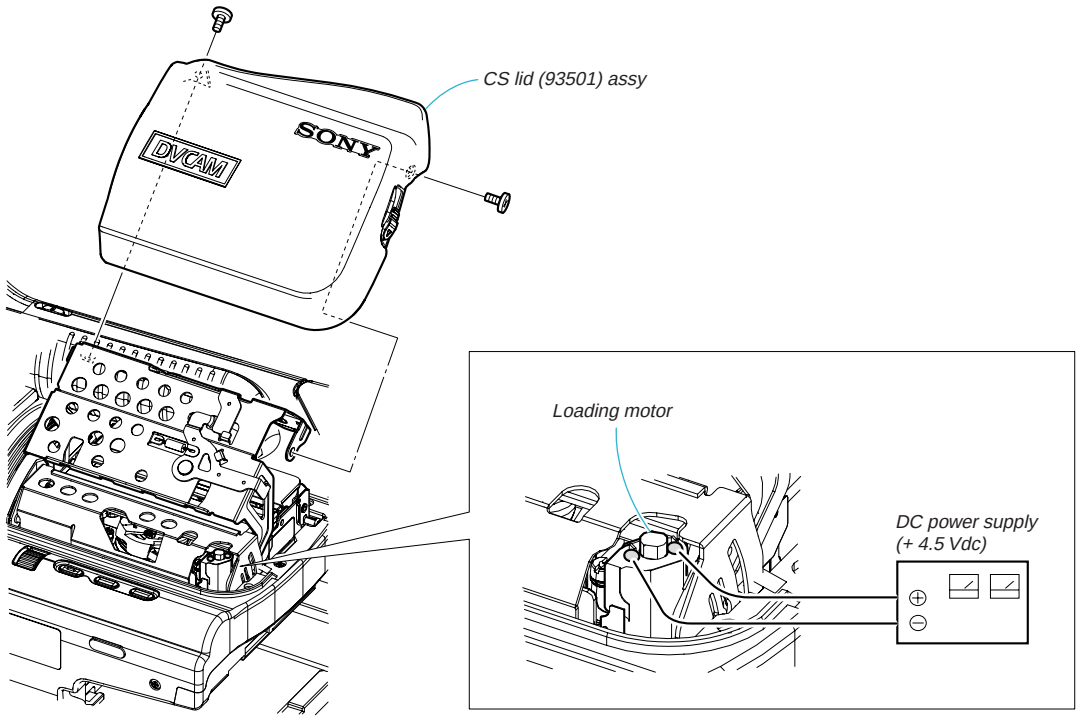
1-1. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied to the battery terminal using the regulated power supply (8.4V), the power is shut off so that the unit cannot operate.
These following method is available to prevent this.

Method:
Use the AC adaptor (AC-L100/L100C).

1-2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

① Remove the Power supply.
② Remove two screws and the CS lid (93501) assy.
③ Supply +4.5V from the DC power supply to the loading motor and unload.



1-3. SETTING THE "FORCED POWER ON" MODE

It is possible to turn on power by adjustment remote commander (RM-95 or NEW LANC JIG).
Operate the VTR function using the adjustment remote commander.

1-3-1. Setting the "Forced Camera Power ON" Mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: A, address: 10, set data: 01 and press the "PAUSE (Write) " button of the adjustment remote commander.

1-3-2. Setting the "Forced VTR Power ON" Mode

1) Select page: 0, address: 01, and set data: 01.
2) Select page: A, address: 10, set data: 02 and press the "PAUSE (Write) " button of the adjustment remote commander.

1-3-3. Exiting the "Forced Power ON" Mode

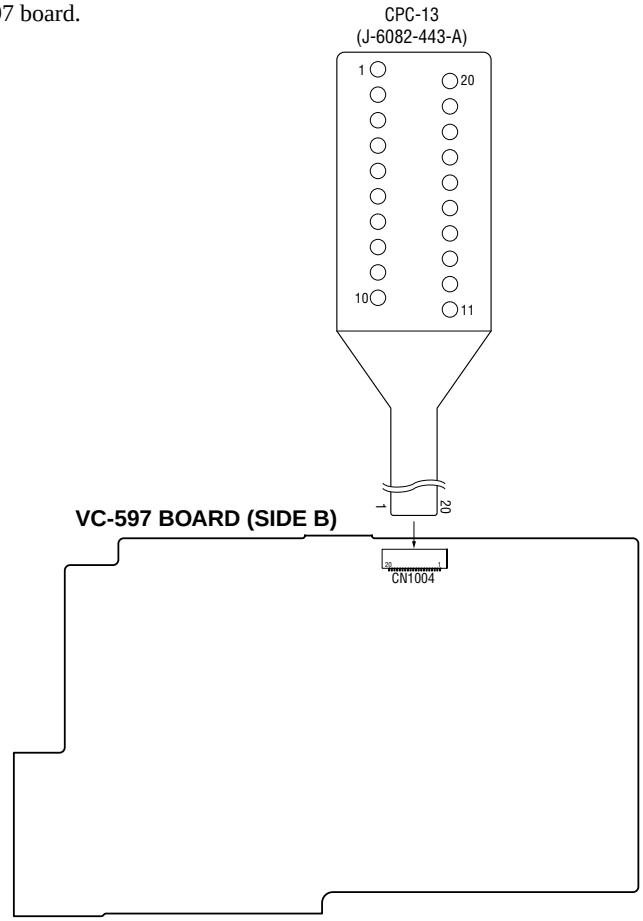
1) Select page: 0, address: 01, and set data: 01.
2) Select page: A, address: 10, set data: 00 and press the "PAUSE (Write) " button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

1-4. USING SERVICE JIG

Connect the CPC-13 jig (J-6082-443-A) to the CN1004 on the VC-597 board.

Pin No.	Signal Name	Pin No.	Signal Name
1 (20)	REG_GND	11 (10)	EEP_SO_C
2 (19)	RF_MON	12 (9)	EEP_SO_S
3 (18)	REG_GND	13 (8)	EEP_SCK_C
4 (17)	SWP	14 (7)	EEP_SCK_S
5 (16)	FRRV	15 (6)	D_2.8V
6 (15)	REG_GND	16 (5)	MD2_C
7 (14)	GND	17 (4)	MD2
8 (13)	GND	18 (3)	XCS_MC_FLASH_C
9 (12)	EEP_SI_C	19 (2)	XCS_MC_FLASH
10 (11)	EEP_SI_S	20 (1)	XSYS_RST

Note: The pin number in ( ) is test terminal number of CN1004 on the VC-597 board.



1-5. SELF-DIAGNOSIS FUNCTION

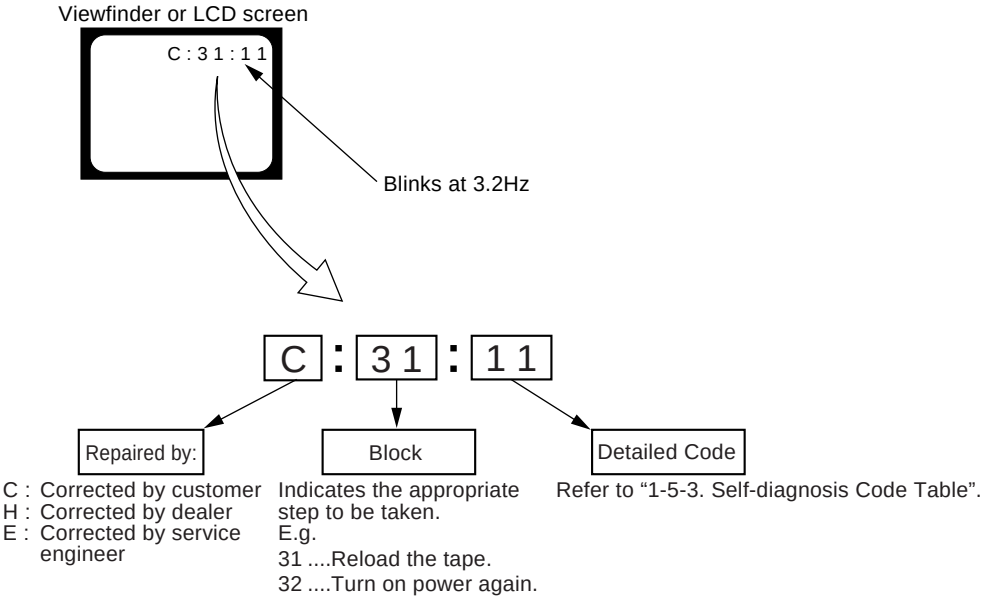
1-5-1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder or LCD screen what to do.

Details of the self-diagnosis functions are provided in the Instruction manual.

1-5-2. Self-diagnosis Display

When problems occur while the unit is operating, the counter of the viewfinder or LCD screen shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the “repaired by:”, “block” in which the problem occurred, and “detailed code” of the problem.


Viewfinder or LCD screen
C : 3 1 : 1 1
Blinks at 3.2Hz
C : 31 : 11
Repaired by:
Block
Detailed Code
C : Corrected by customer
H : Corrected by dealer
E : Corrected by service engineer
Indicates the appropriate step to be taken.
E.g.
31 ....Reload the tape.
32 ....Turn on power again.
Refer to “1-5-3. Self-diagnosis Code Table”.

1-5-3. Self-diagnosis Code Table

Self-diagnosis Code					Symptom/State	Correction
Repaired by:	Block Function		Detailed Code			
C	0	4	0	0	Non-standard battery is used.	Use the InfoLITHIUM battery.
C	0	6	0	0	The battery is too hot.	Replace the battery or remove it and put it in cool place.
C	2	1	0	0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2	2	0	0	Video head is dirty.	Clean with the optional cleaning cassette.
C	3	1	1	0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	1	1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3	1	2	0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	1	S reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3	1	2	2	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	3	S reel fault.	Load the tape again, and perform operations from the beginning.
C	3	1	2	4	T reel and S reel FG short fault.	Load the tape again, and perform operations from the beginning.
C	3	1	3	0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3	1	4	0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3	1	4	2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3	1	7	2	Retry fault when catching one's finger in cassette compartment.	Load the tape again, and perform operations from the beginning.
C	3	1	9	7	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Load the tape again, and perform operations from the beginning.
C	3	1	9	8	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Load the tape again, and perform operations from the beginning.
C	3	1	9	9	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Load the tape again, and perform operations from the beginning.
C	3	2	1	0	LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	1	1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	1	S reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	2	4	T reel and S reel FG short fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	3	0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	0	FG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	4	2	FG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	6	0	Difficult to adjust focus (Cannot initialize focus.)	Remove the battery or power cable, connect, and perform operations from the beginning. If it does not recover, inspect the focus MR sensor of lens drive block (Pin ⑩, ⑫ of CN5002 on the VC-597 board). If not faulty, inspect the focus motor drive circuit (IC6001 on the VC-597 board).

Self-diagnosis Code					Symptom/State	Correction
Repaired by:	Block Function		Detailed Code			
C	3	2	7	2	Retry fault when catching one's finger in cassette compartment.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	9	7	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	9	8	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3	2	9	9	Vector fault (Judgement with the set state that is impossible actually for fault of sensors.)	Remove the battery or power cable, connect, and perform operations from the beginning.
E	2	0	0	0	EEPROM data are rewritten.	Make EEPROM data correct value.
E	6	1	1	0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the zoom MR sensor of lens drive block (Pin ㉜, ㉞ of CN5002 on the VC-597 board) when zooming is performed when the zoom switch is operated and the zoom motor drive circuit (IC6001 on the VC-597 board) when zooming is not performed.
E	6	1	1	1	Focus lens initializing failure and zoom lens initializing failure occur simultaneously.	Check both C: 32: 60 and E: 61: 10 of the self-diagnosis code.
E	6	1	3	0	Reset position detect error when stepper iris is initialized.	Turn on the power and set to T (telephoto) end by rotating the ZOOM manual ring. While observing the iris blades in the lens, turn on the power again and check the iris blades in the lens work properly. Inspect the iris drive motor of lens drive block (Pin ⑯ to ⑲ of CN5002 on the VC-597 board), when the iris does not operate. Inspect the iris reset sensor of lens drive block (Pin ⑬ to ⑮ of CN5002 on the VC-597 board), when the iris operate.
E	6	2	0	0	Steadyshot function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE8501 on the GY-014 board) peripheral circuits.
E	6	2	0	1	Steadyshot function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE8502 on the GY-014 board) peripheral circuits.
E	6	2	0	2	Abnormality of IC for steadyshot.	Inspect the steadyshot circuit (IC7001 on the VC-597 board). If it does not recover, replace the VC-597 board. (Note) If an error occurs again, replace the lens block.
E	6	2	0	3	IC for steadyshot and micro controller communication abnormality among.	Inspect the steadyshot circuit (IC7001 on the VC-597 board).
E	6	2	1	0	Shift lens initializing failure	Inspect the EEPROM (IC4202 on the VC-597 board). If it does not recover, replace the VC-597 board. (Note) If an error occurs again, replace the lens block.
E	6	2	1	1	Shift lens overheating (Pitch)	Inspect the IC7001 and peripheral circuits on the VC-597 board. If it does not recover, replace the VC-597 board. (Note) If an error occurs again, replace the lens block.
E	6	2	1	2	Shift lens overheating (Yaw)	Inspect the IC7001 and peripheral circuits on the VC-597 board. If it does not recover, replace the VC-597 board. (Note) If an error occurs again, replace the lens block.
E	6	2	2	0	Abnormality of lens thermister	Inspect the IC7001 and peripheral circuits on the VC-597 board. If it does not recover, replace the VC-597 board. (Note) If an error occurs again, replace the lens block.

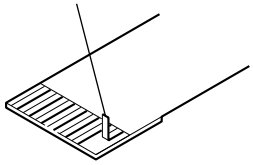
Note: When replacing the VC-597 board, remove the EEPROM (IC4202) from the VC-597 board that is going to be repaired. Install the removed EEPROM (IC4202) to the replaced VC-597 board.

2. DISASSEMBLY

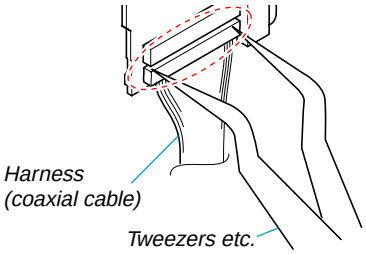
NOTE FOR REPAIR

- Make sure that the flat cable and flexible board are not cracked of bent at the terminal.
  Do not insert the cable insufficiently nor crookedly.
- When remove a connector, don't pull at wire of connector. It is possible that a wire is snapped.
- When installing a connector, don't press down at wire of connector.
  It is possible that a wire is snapped.

Cut and remove the part of gilt which comes off at the point. (Be careful or some pieces of gilt may be left inside)

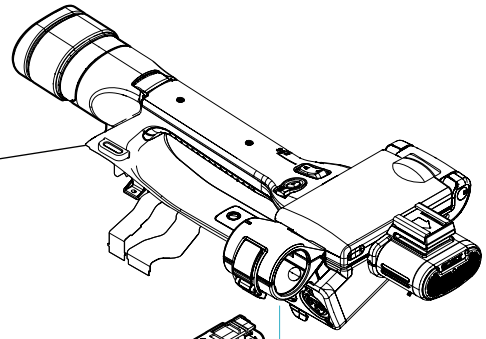


NOTE FOR DISCONNECTING THE HARNESS (COAXIAL CABLE)



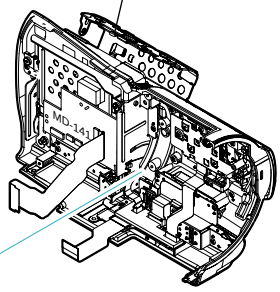
When disconnecting the harness (COAXIAL CABLE), do not pull the harness part but pull off the connector body with tweezers etc.

2-1. IDENTIFYING PARTS

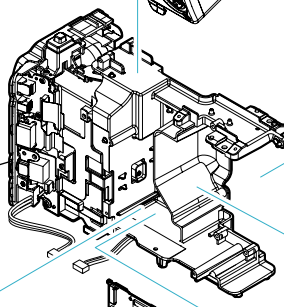


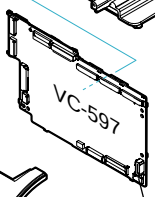
Handle Section
- AS-060 Board
- FP-966 Flexible Board
- FP-967 Flexible Board
- FP-981 Flexible Board
- FP-982 Flexible Board
- GP-025 Board
- HT-002 Board
- KY-105 Board
- MA-454 Board
- PD-372 Board
- PI-029 Board
- VF-178 Board
- XL-010 Board

Cabinet (R) Section
- CK-204 Board
- FP-969 Flexible Board
- MD-141 Board
- Mechanism Deck

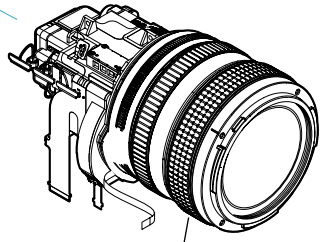


BT Panel Section
- HP-153 Board
- JK-376 Board

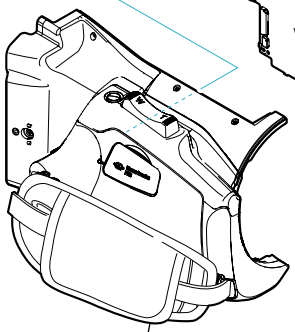




VC-597 Board



Lens Section
- GY-014 Board
- Prism Device (CM-097/104 Board)



Cabinet (L) Section
- MS-405 Board

- DISASSEMBLY FLOW -

2-2-1. OVERALL SECTION-1
- Cabinet (L) Section
- VC-597 Board
- Main Frame

2-2-2. OVERALL SECTION-2
- Cabinet (R) Section
- Handle Section-1
- Lens Section

2-2-3. CABINET (R) SECTION
- MD Section
- CK-204 Board
- AL Lid (93000)

2-2-4. MD SECTION
- Mechanism Deck

2-2-5. HANDLE SECTION-1
- EVF Section
- Microphone Holder Assy

2-2-6. HANDLE SECTION-2
- Control Panel Block
- PI-029 Board
- LCD Section

2-2-7. HANDLE SECTION-3
- GP-025 Board
- XL-010 Board
- Handle Section-4

2-2-8. HANDLE SECTION-4
- AS-060 Board
- Microphone Section

2-2-9. LCD SECTION
- Hinge Block
- LCD

2-2-10. CABINET (L) SECTION
- Cabinet (L) Block
- Cabinet (G) Block

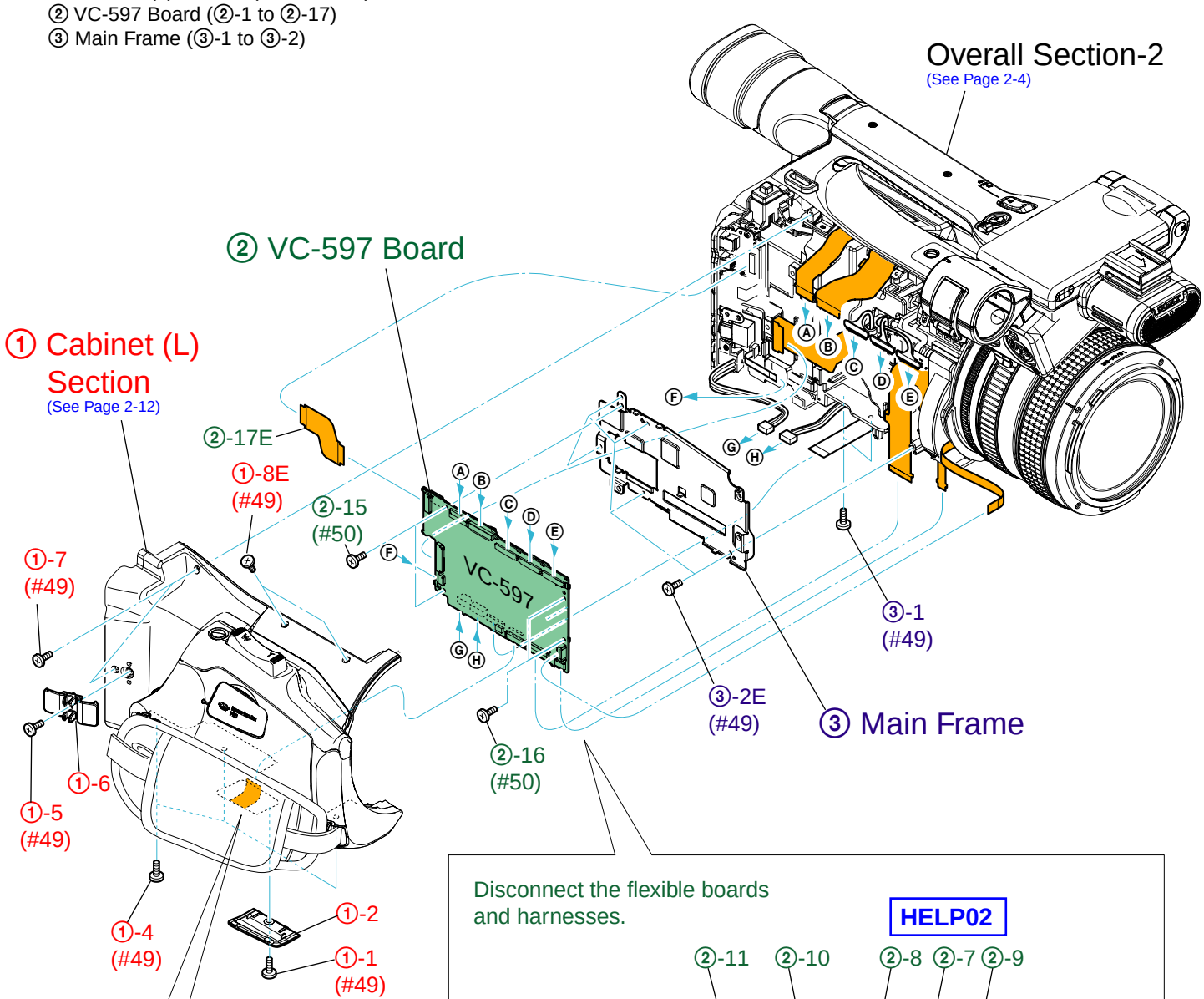
2-2. DISASSEMBLY

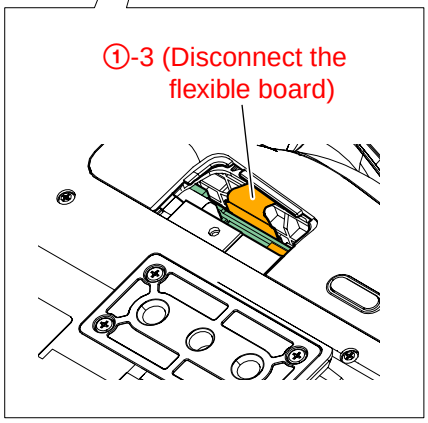
EXPLODED VIEW HARDWARE LIST

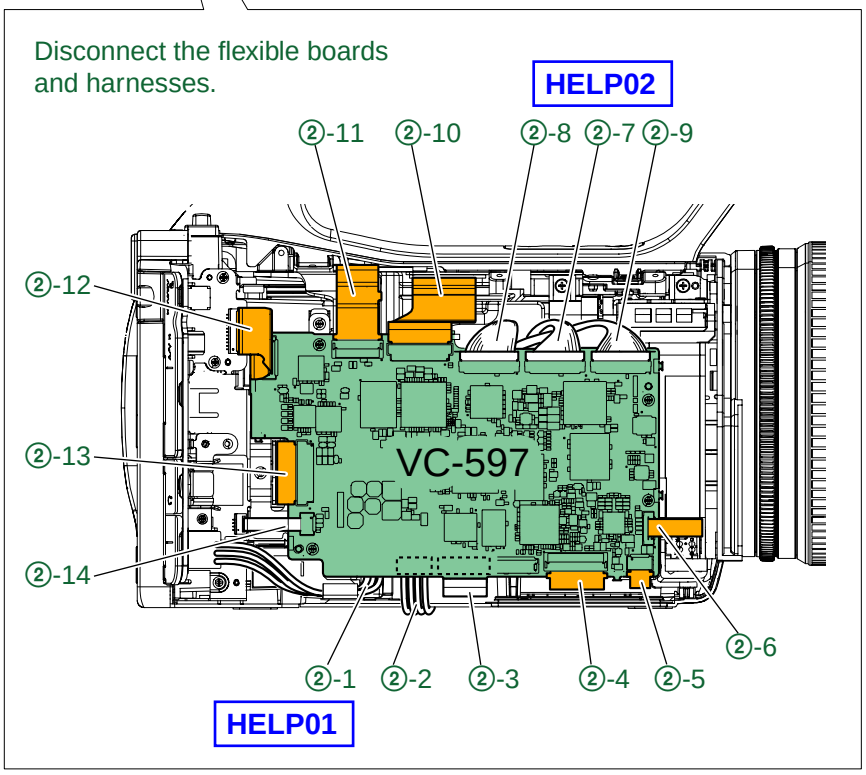
2-2-1. OVERALL SECTION-1

Follow the disassembly in the numerical order given.

① Cabinet (L) Section (①-1 to ①-8)
② VC-597 Board (②-1 to ②-17)
③ Main Frame (③-1 to ③-2)





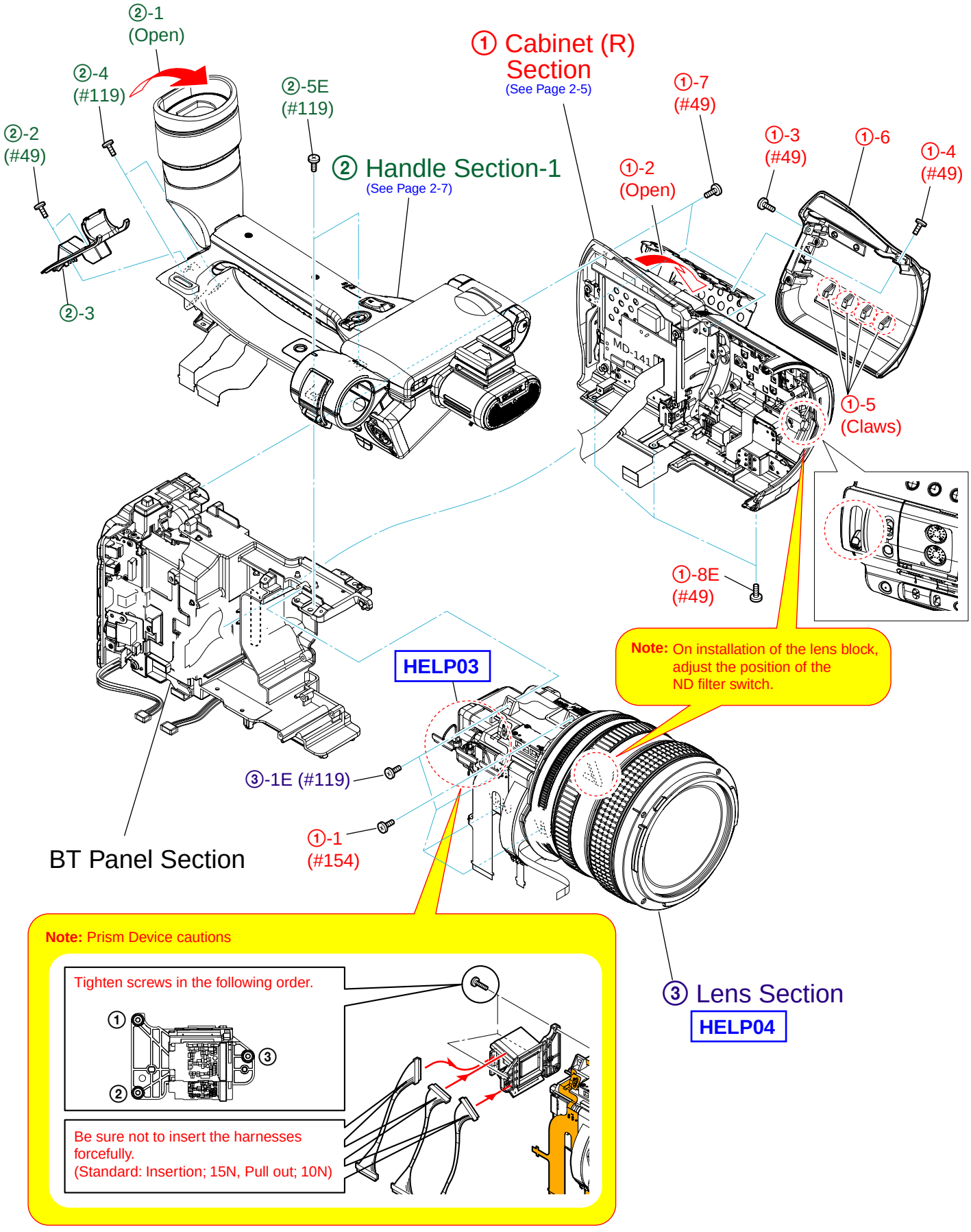


2-2-2. OVERALL SECTION-2

EXPLODED VIEW HARDWARE LIST

Follow the disassembly in the numerical order given.

① Cabinet (R) Section (①-1 to ①-8)
② Handle Section-1 (②-1 to ②-5)
③ Lens Section (③-1)



2-2-3. CABINET (R) SECTION

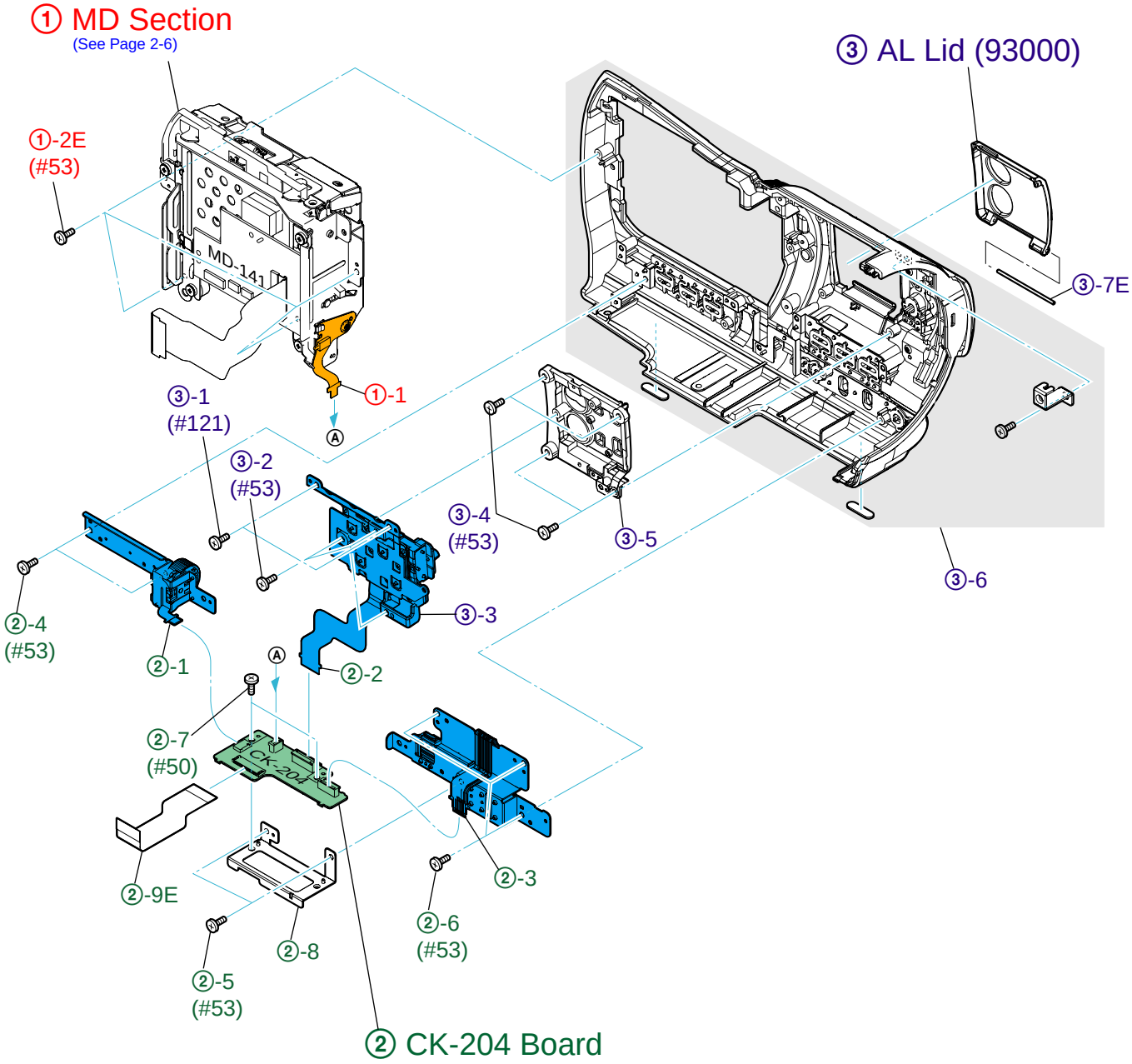
EXPLODED VIEW HARDWARE LIST

Follow the disassembly in the numerical order given.

① MD Section (①-1 to ①-2)

② CK-204 Board (②-1 to ②-9)

③ AL Lid (93000) (③-1 to ③-7)

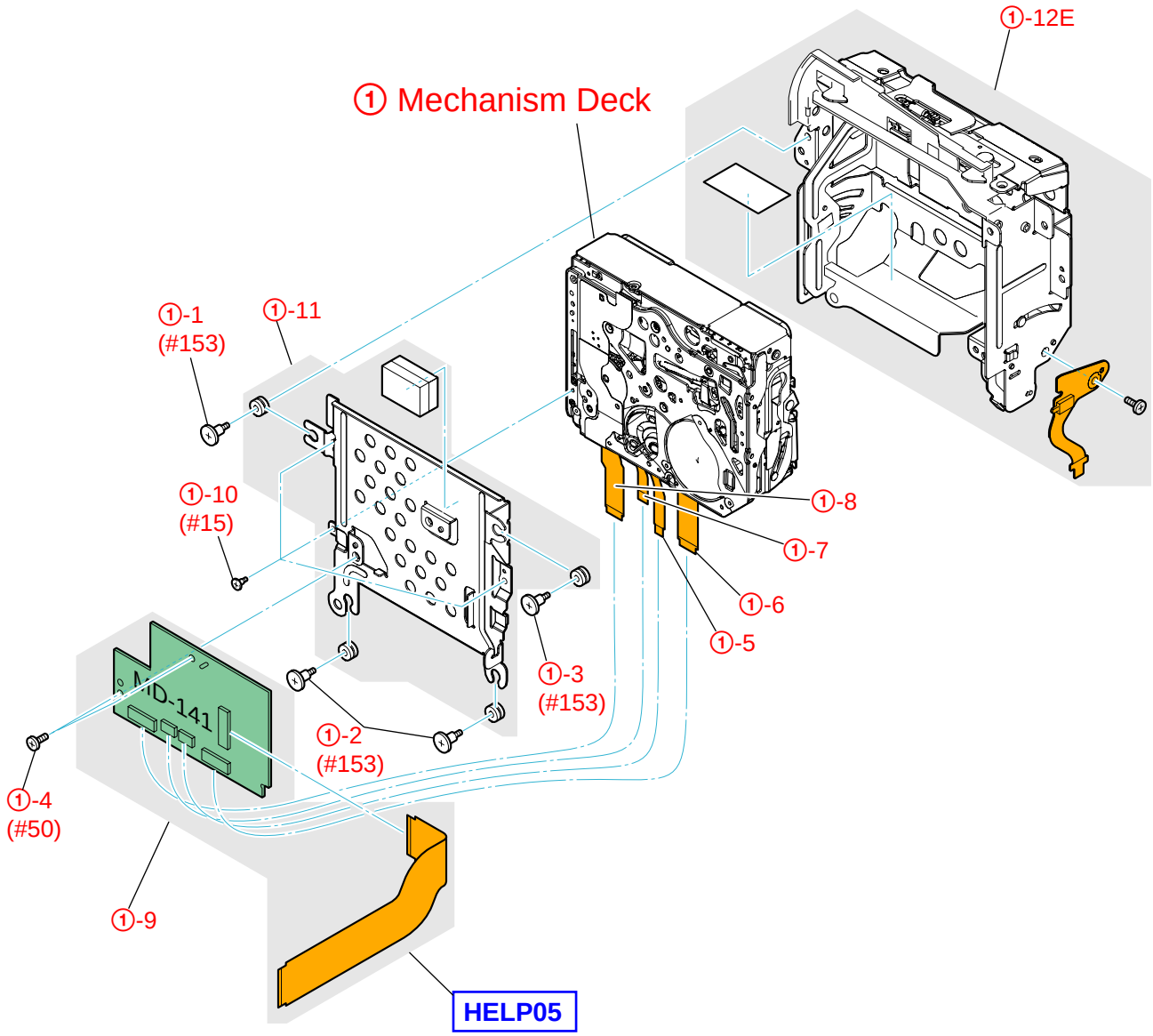


2-2-4. MD SECTION

Follow the disassembly in the numerical order given.

① Mechanism Deck (①-1 to ①-12)

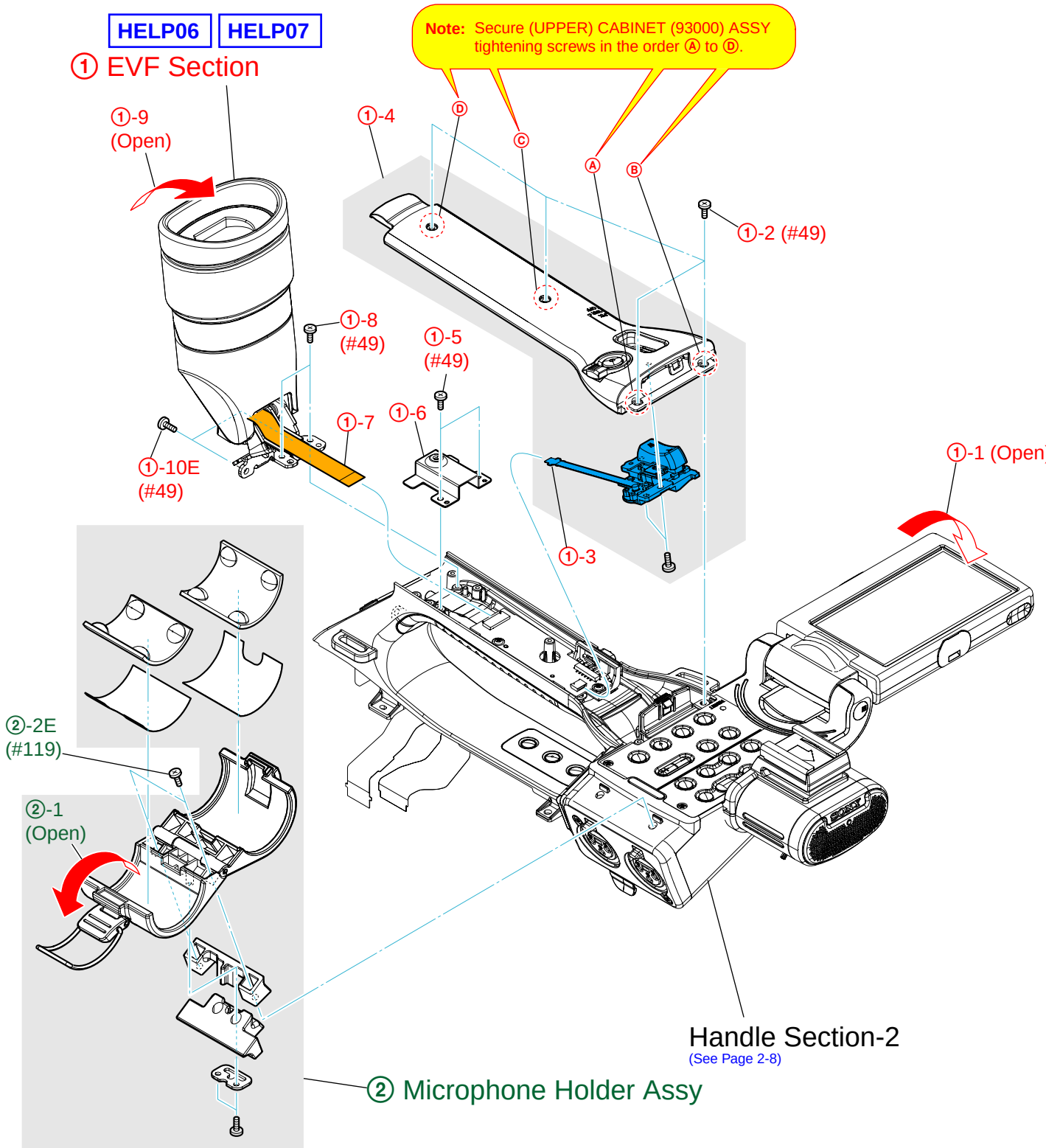
EXPLODED VIEW HARDWARE LIST



2-2-5. HANDLE SECTION-1

Follow the disassembly in the numerical order given.
① EVF Section (①-1 to ①-10)
② Microphone Holder Assy (②-1 to ②-2)

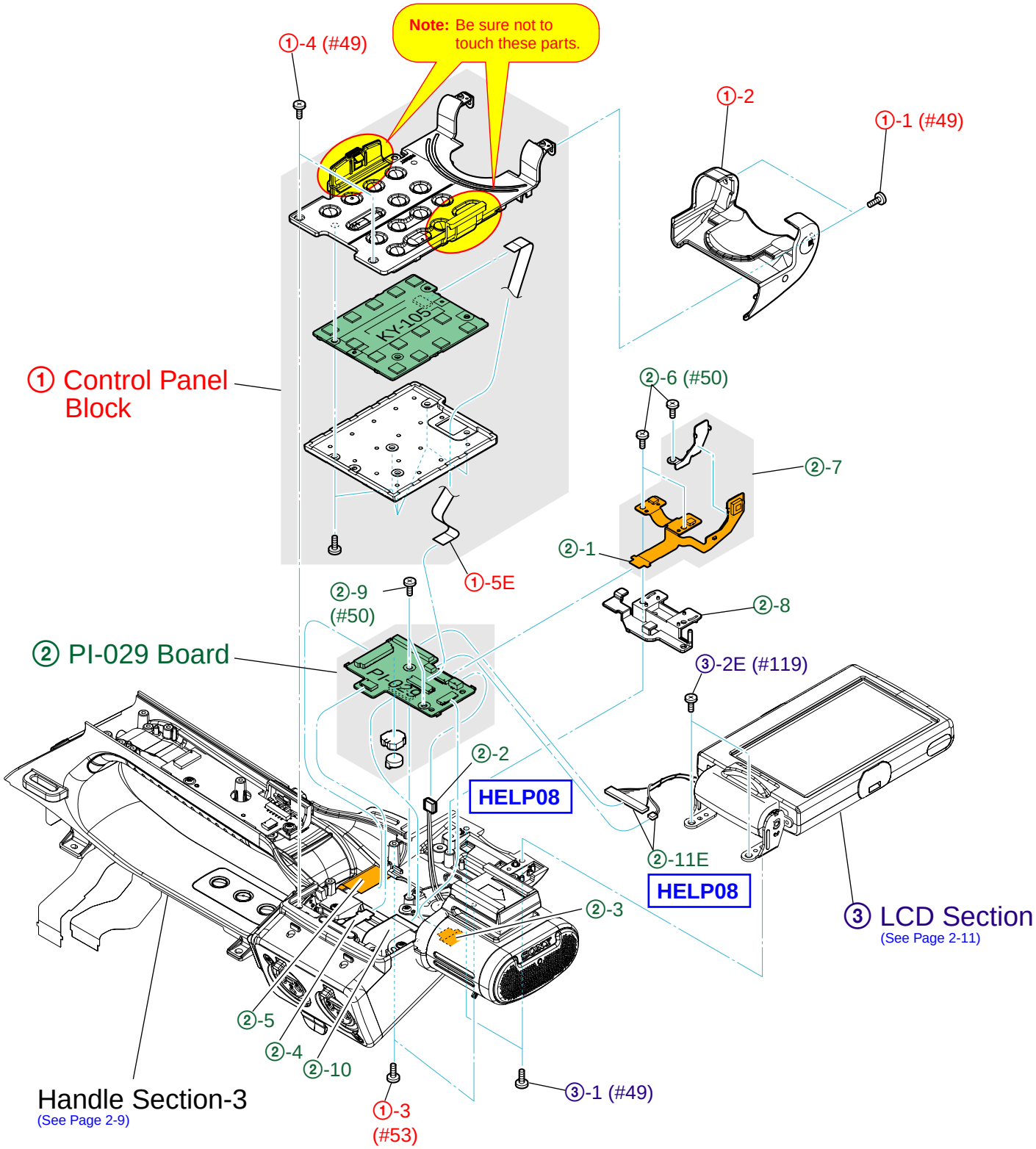
EXPLODED VIEW HARDWARE LIST



2-2-6. HANDLE SECTION-2

EXPLODED VIEW HARDWARE LIST

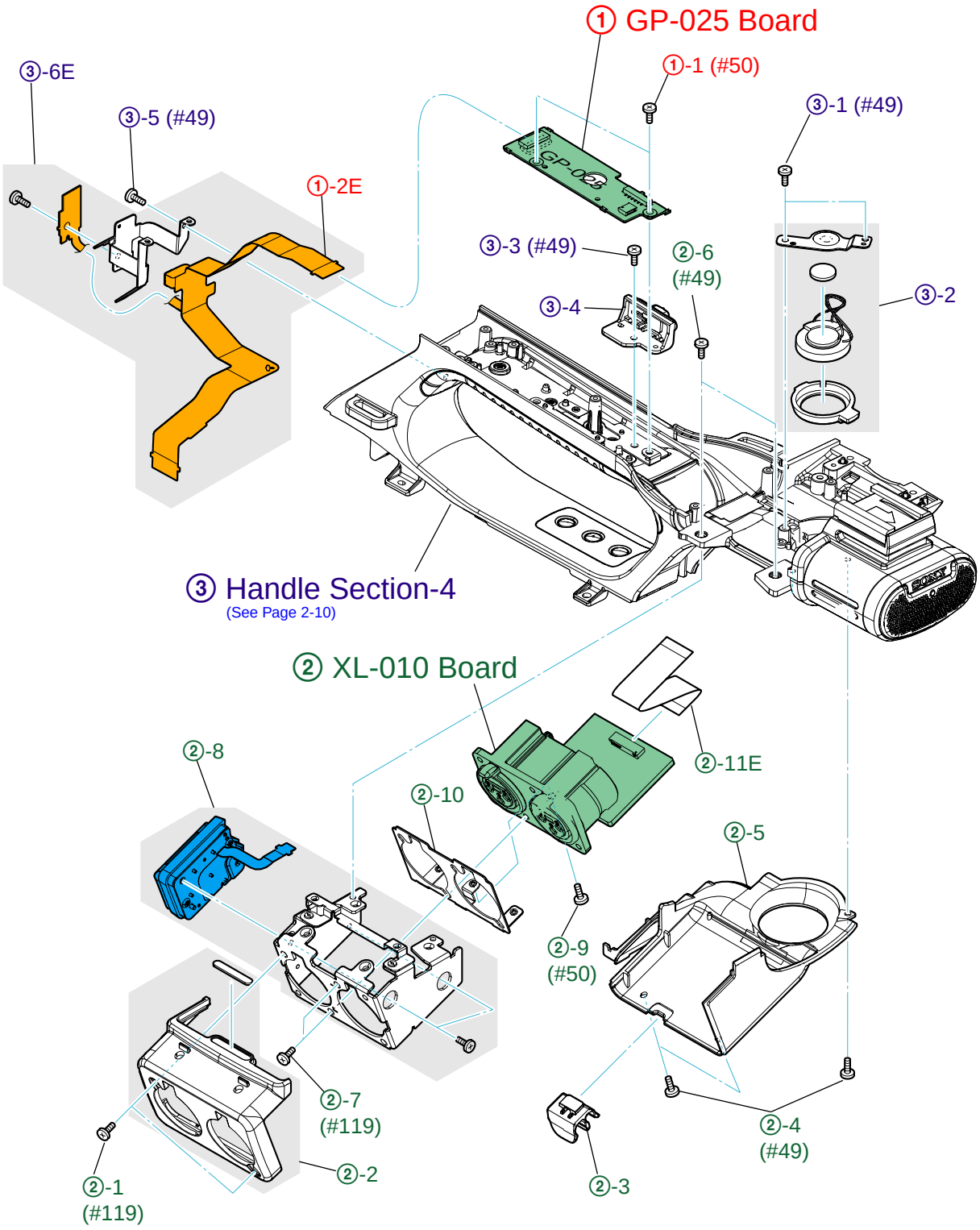
Follow the disassembly in the numerical order given.
① Control Panel Block (①-1 to ①-5)
② PI-029 Board (②-1 to ②-11)
③ LCD Section (③-1 to ③-2)



2-2-7. HANDLE SECTION-3

EXPLODED VIEW HARDWARE LIST

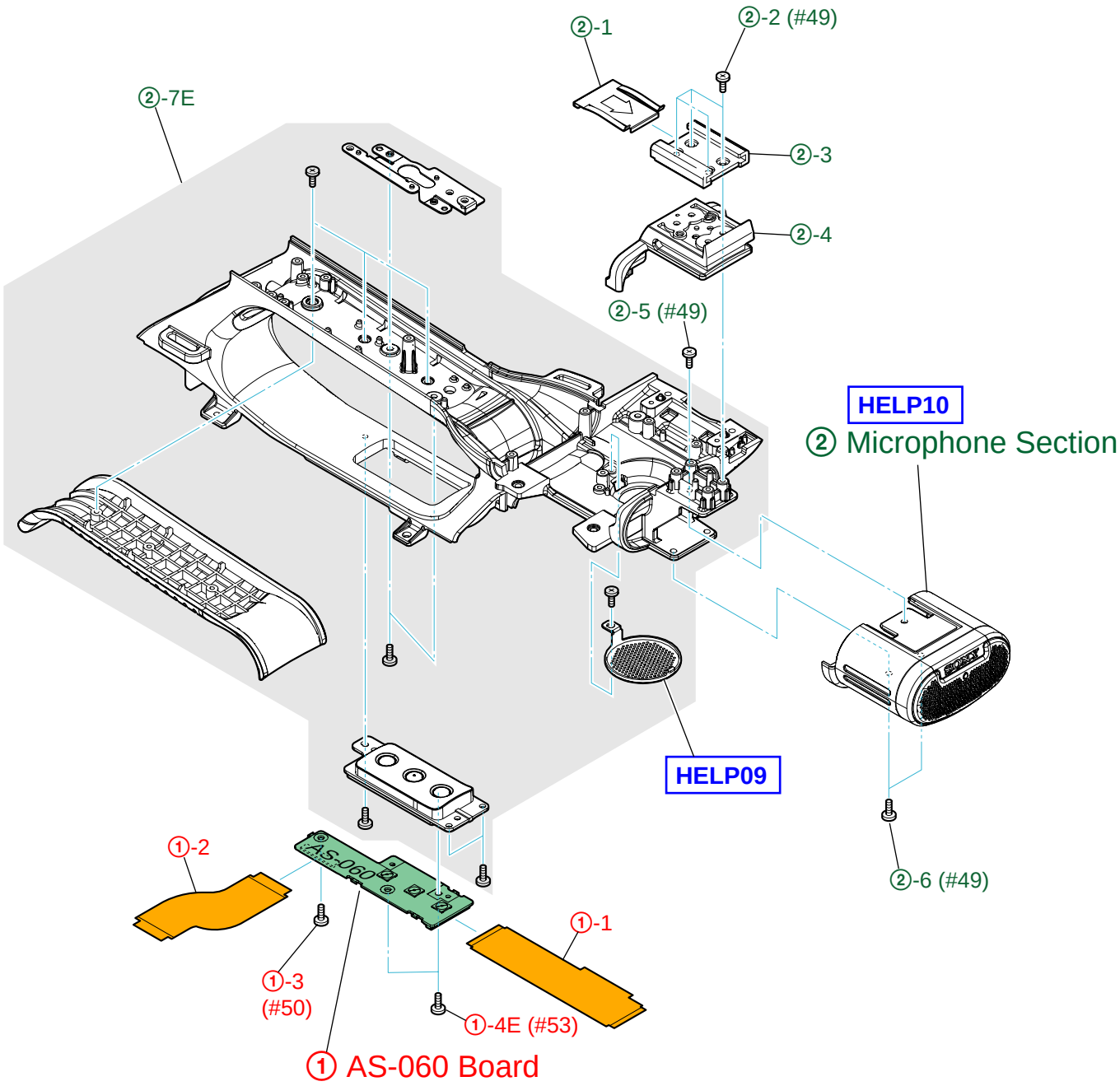
Follow the disassembly in the numerical order given.
① GP-025 Board (①-1 to ①-2)
② XL-010 Board (②-1 to ②-11)
③ Handle Section-4 (③-1 to ③-6)



2-2-8. HANDLE SECTION-4

Follow the disassembly in the numerical order given.
① AS-060 Board (①-1 to ①-4)
② Microphone Section (②-1 to ②-7)

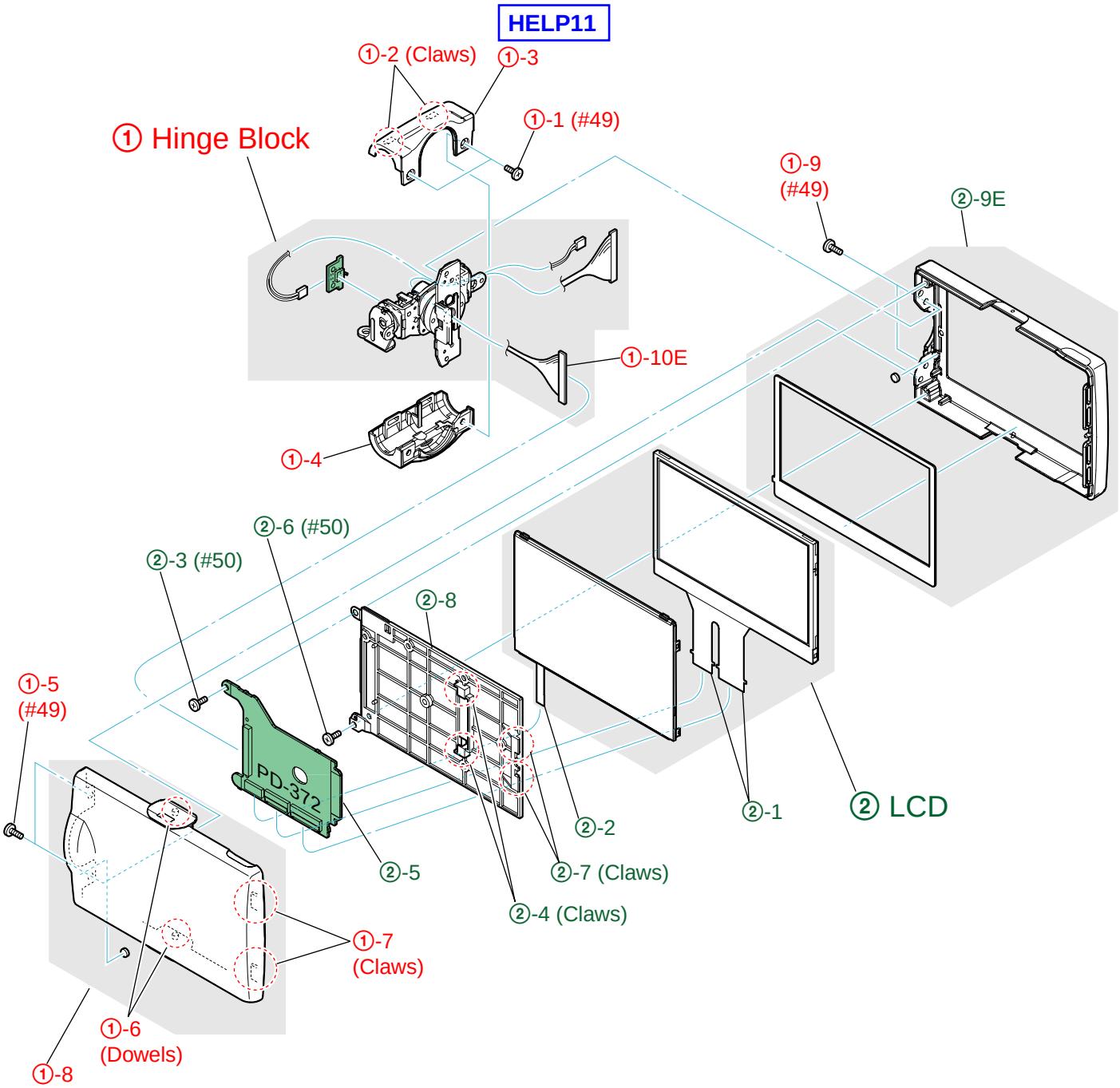
EXPLODED VIEW HARDWARE LIST



2-2-9. LCD SECTION

Follow the disassembly in the numerical order given.
① Hinge Block (①-1 to ①-10)
② LCD (②-1 to ②-9)

EXPLODED VIEW HARDWARE LIST



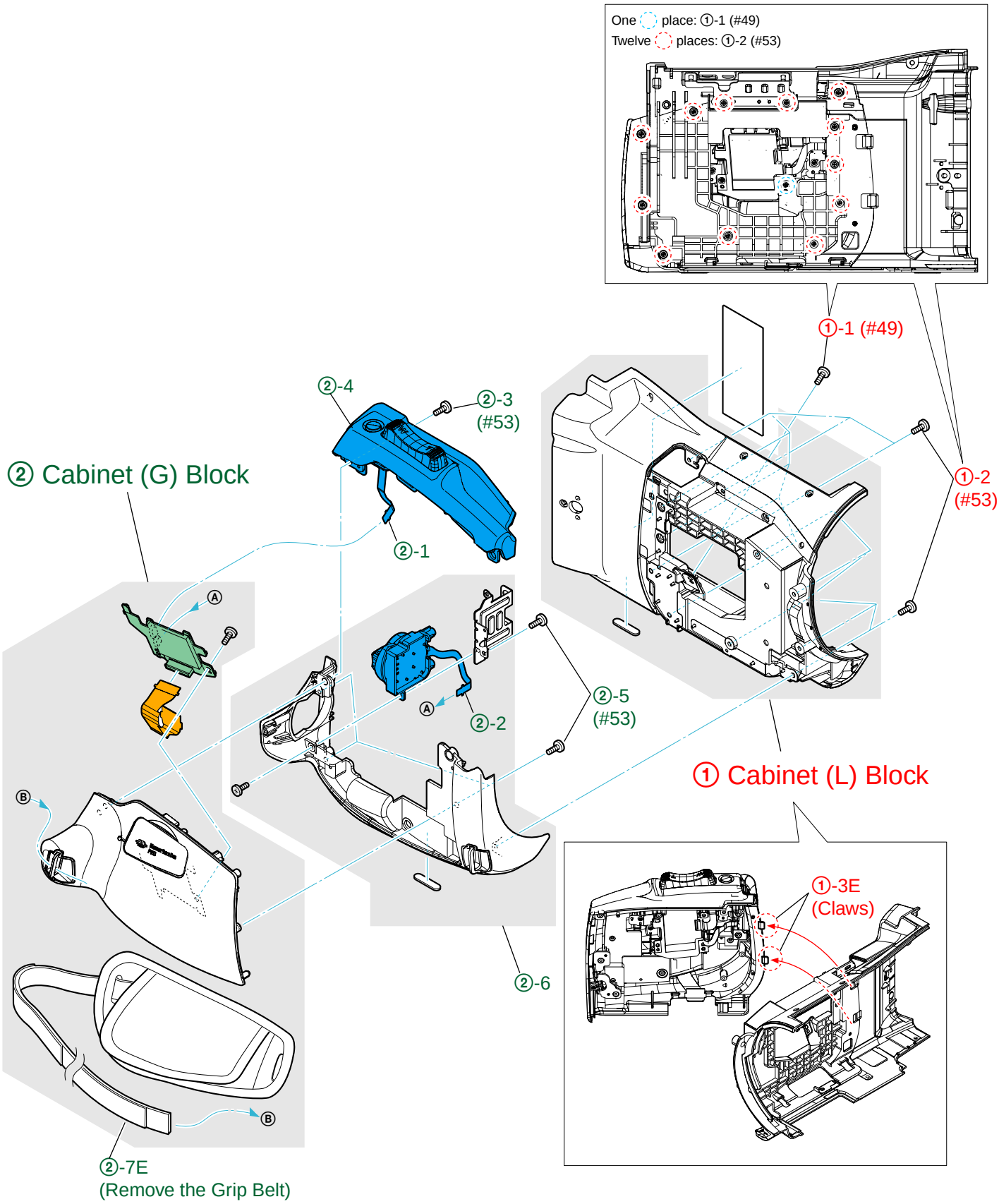
2-2-10. CABINET (L) SECTION

Follow the disassembly in the numerical order given.

① Cabinet (L) Block (①-1 to ①-3)

② Cabinet (G) Block (②-1 to ②-7)

EXPLODED VIEW HARDWARE LIST

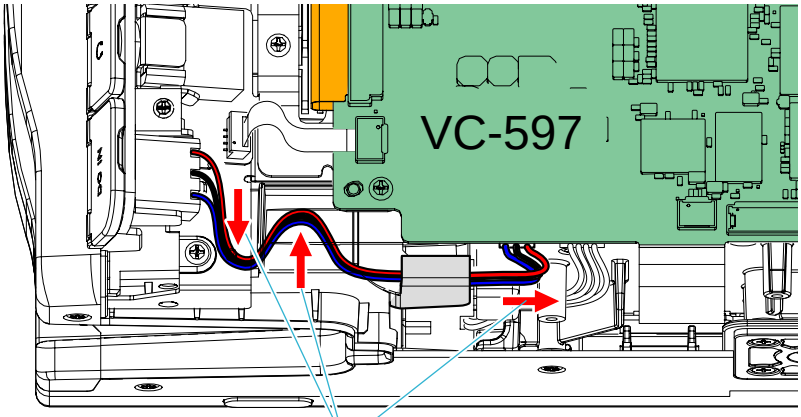


HELP

Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

HELP01

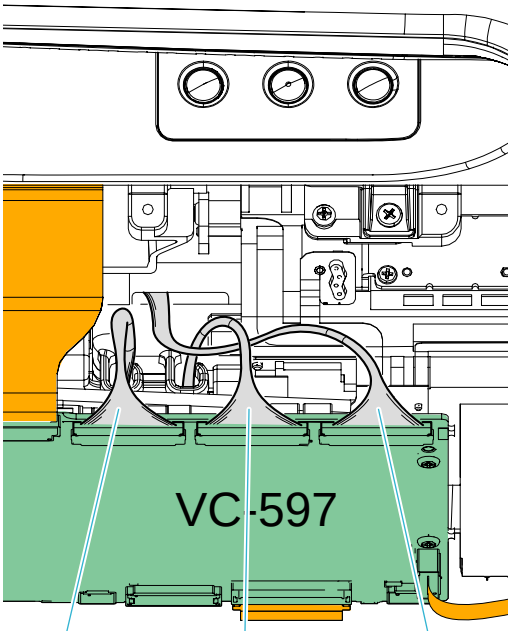
How to arrange Harness (DC-IN Connector).



Crease the Harness (DC-IN Connector)
as shown in the figure.

HELP02

How to arrange Harness (Coaxial Cable).



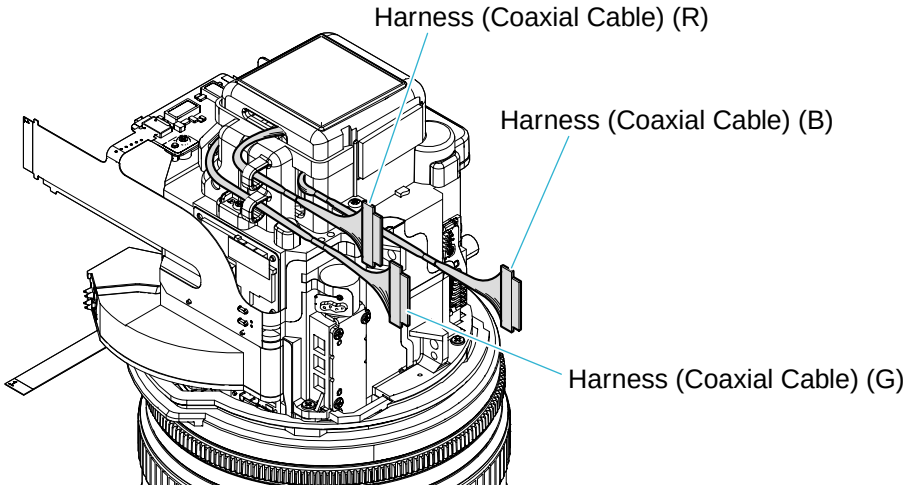
Harness (Coaxial Cable) (R)

Harness (Coaxial Cable) (G)

Harness (Coaxial Cable) (B)

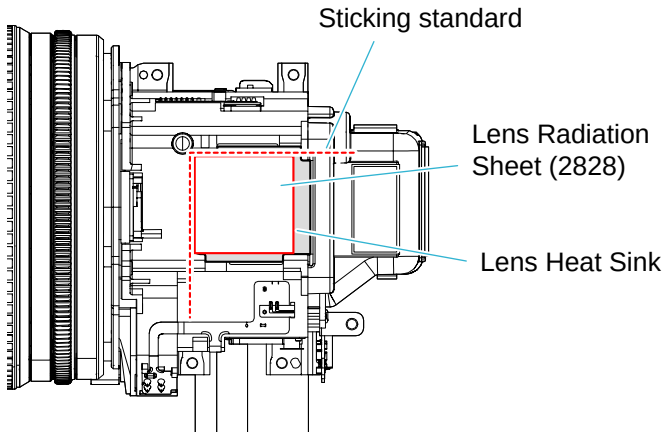
HELP03

How to arrange Harnesses (Coaxial Cable).



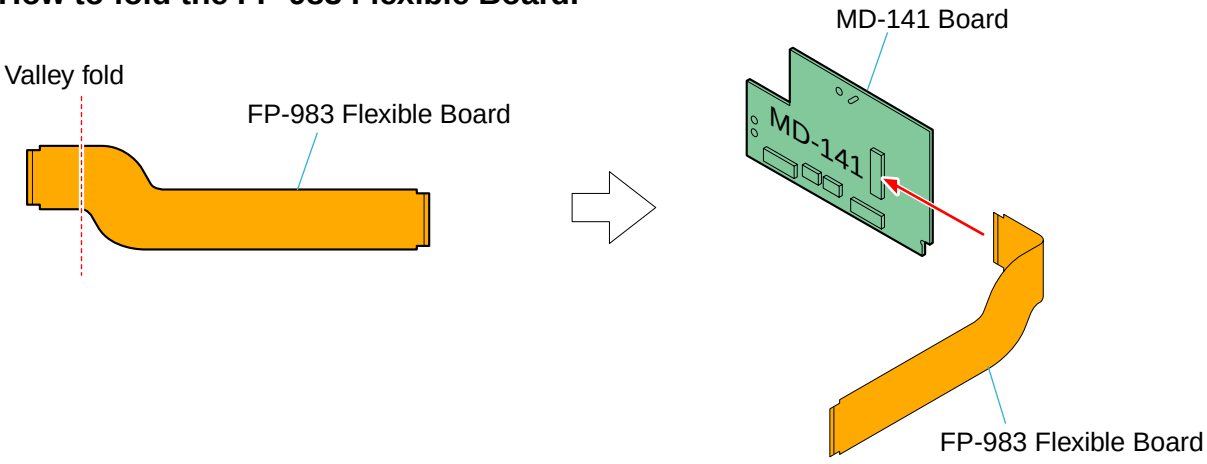
HELP04

Sticking standard of the Lens Radiation Sheet (2828).



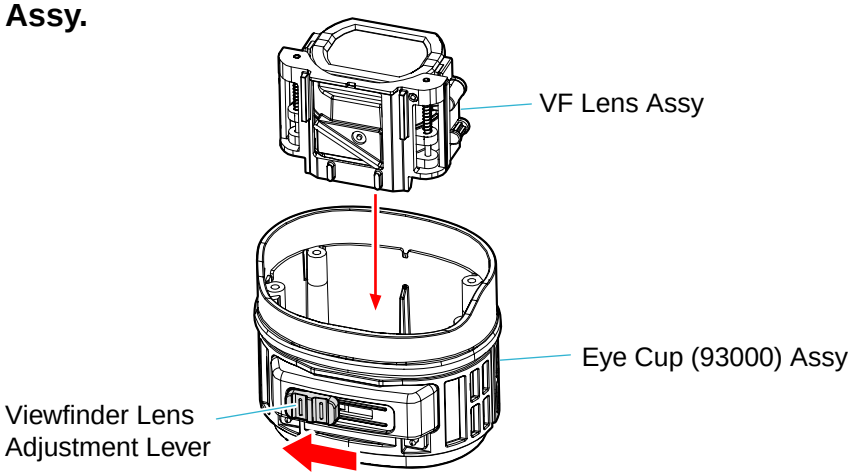
HELP05

How to fold the FP-983 Flexible Board.



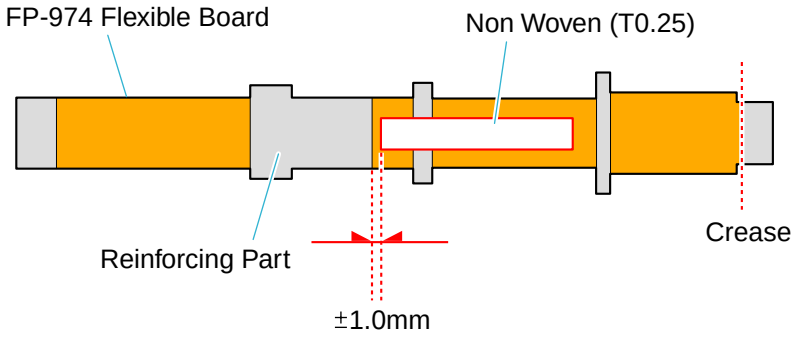
HELP06

Confirm the Viewfinder Lens Adjustment Lever is on the left side when installing the VF Lens Assy.



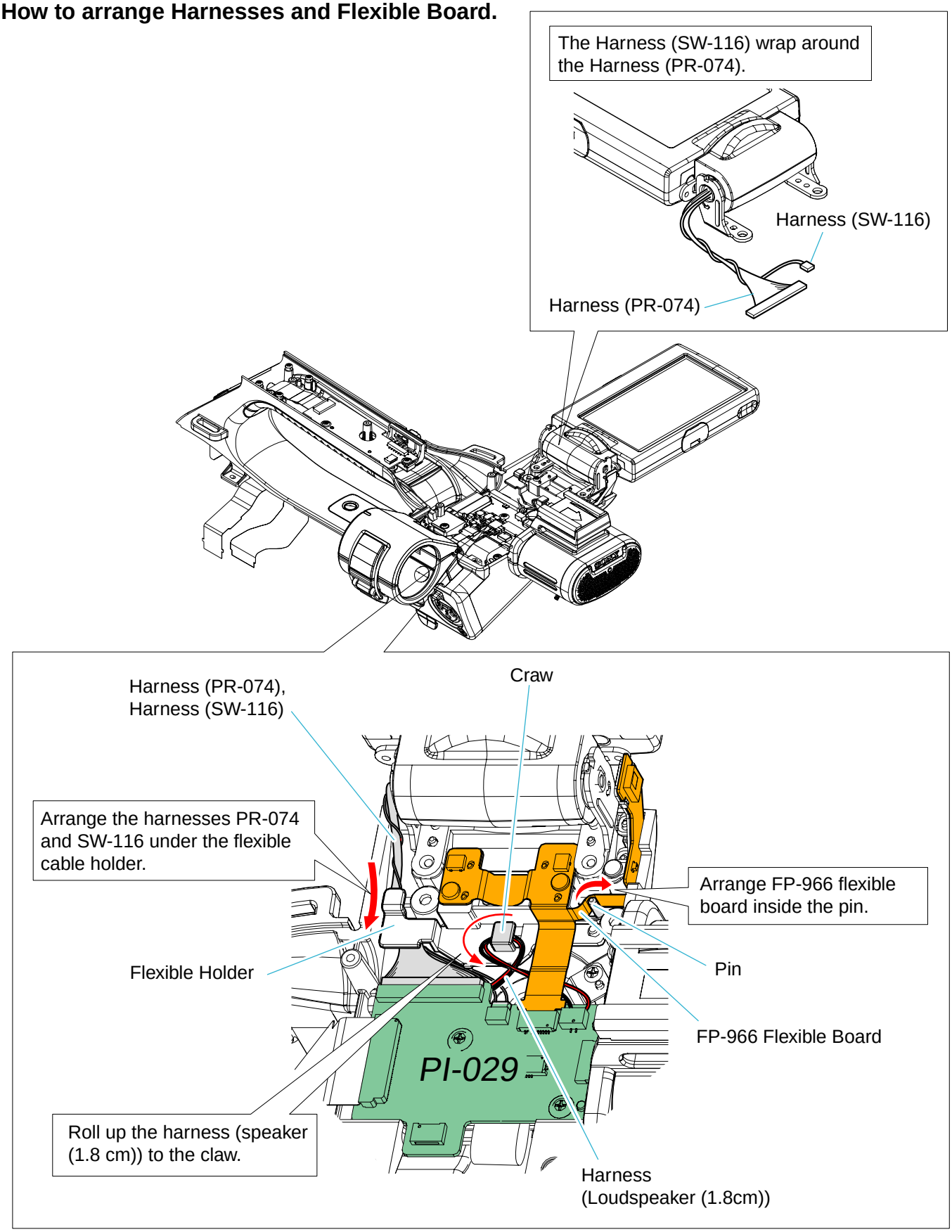
HELP07

Sticking standard of the Non Woven (T0.25)



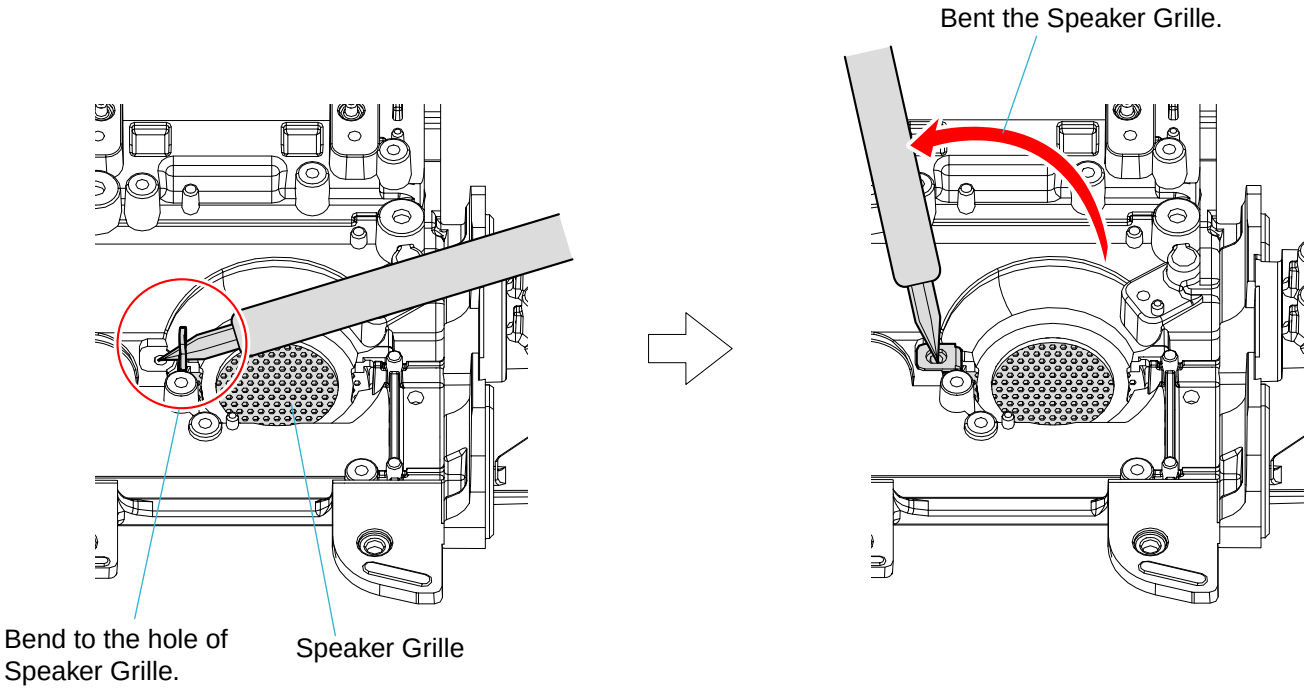
HELP08

How to arrange Harnesses and Flexible Board.


The Harness (SW-116) wrap around the Harness (PR-074).
Harness (SW-116)
Harness (PR-074)
Harness (PR-074), Harness (SW-116)
Craw
Arrange the harnesses PR-074 and SW-116 under the flexible cable holder.
Arrange FP-966 flexible board inside the pin.
Flexible Holder
Pin
FP-966 Flexible Board
PI-029
Roll up the harness (speaker (1.8 cm)) to the claw.
Harness (Loudspeaker (1.8cm))

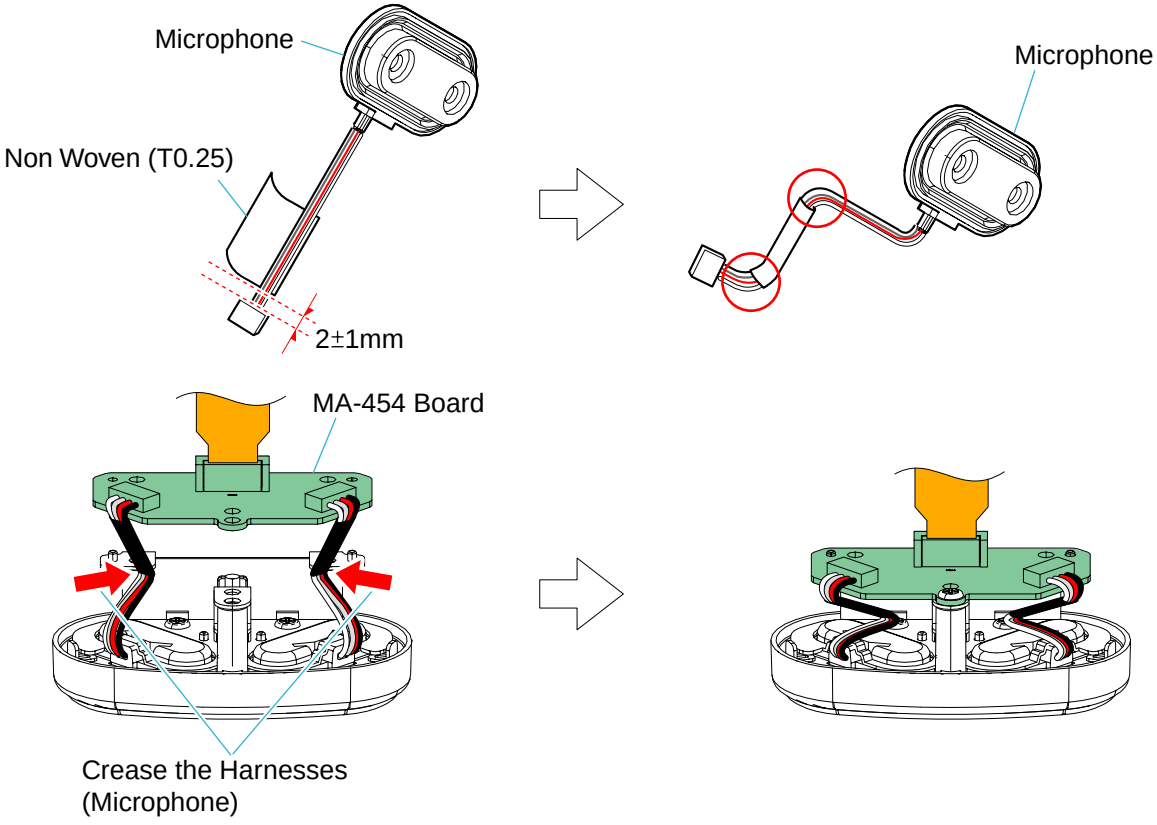
HELP09

How to bent the Speaker Grille.



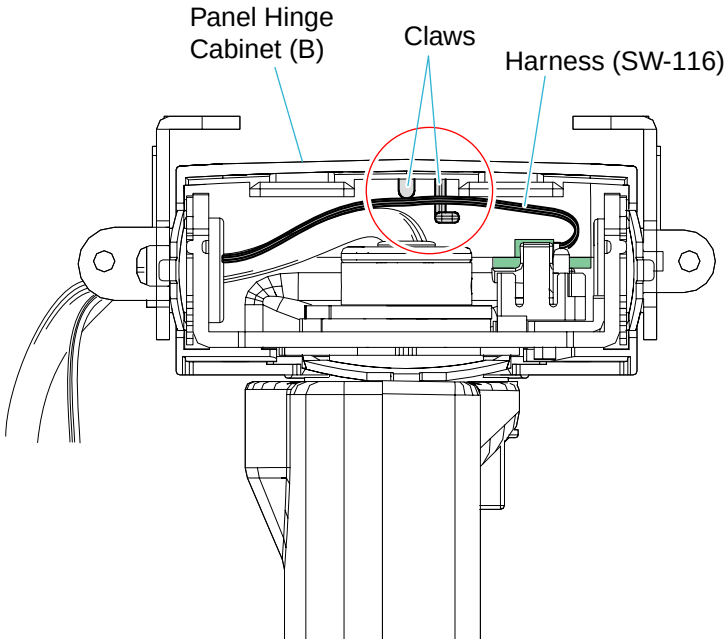
HELP10

Crease the harness (Microphone) two points as shown in the figure.



HELP11

How to arrange Harnesses (SW-116).



3. BLOCK DIAGRAMS

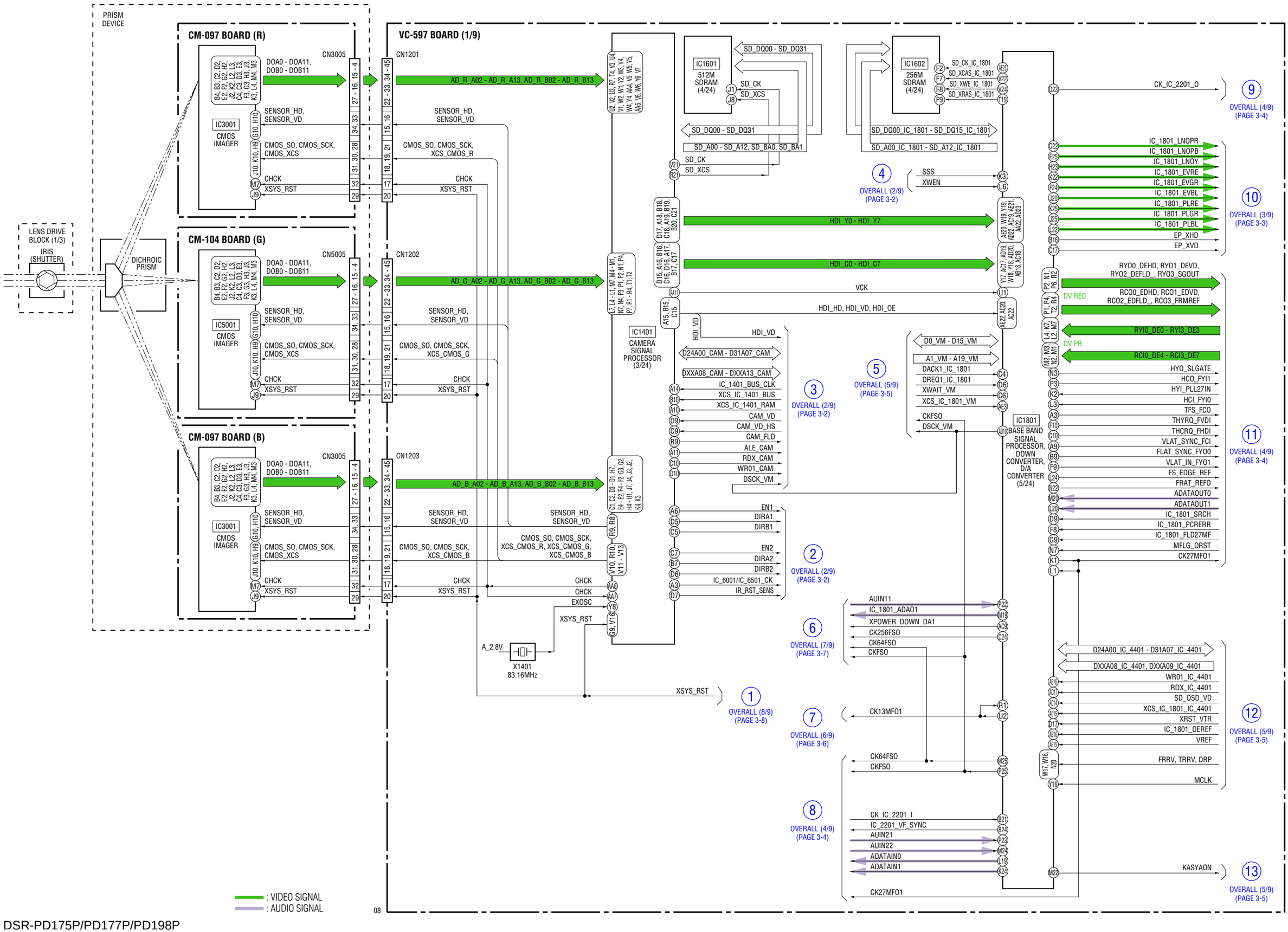
Link

- OVERALL BLOCK DIAGRAM (1/9)
- OVERALL BLOCK DIAGRAM (2/9)
- OVERALL BLOCK DIAGRAM (3/9)
- OVERALL BLOCK DIAGRAM (4/9)
- OVERALL BLOCK DIAGRAM (5/9)
- OVERALL BLOCK DIAGRAM (6/9)
- OVERALL BLOCK DIAGRAM (7/9)
- OVERALL BLOCK DIAGRAM (8/9)
- OVERALL BLOCK DIAGRAM (9/9)
- POWER BLOCK DIAGRAM (1/4)
- POWER BLOCK DIAGRAM (2/4)
- POWER BLOCK DIAGRAM (3/4)
- POWER BLOCK DIAGRAM (4/4)

3. BLOCK DIAGRAMS

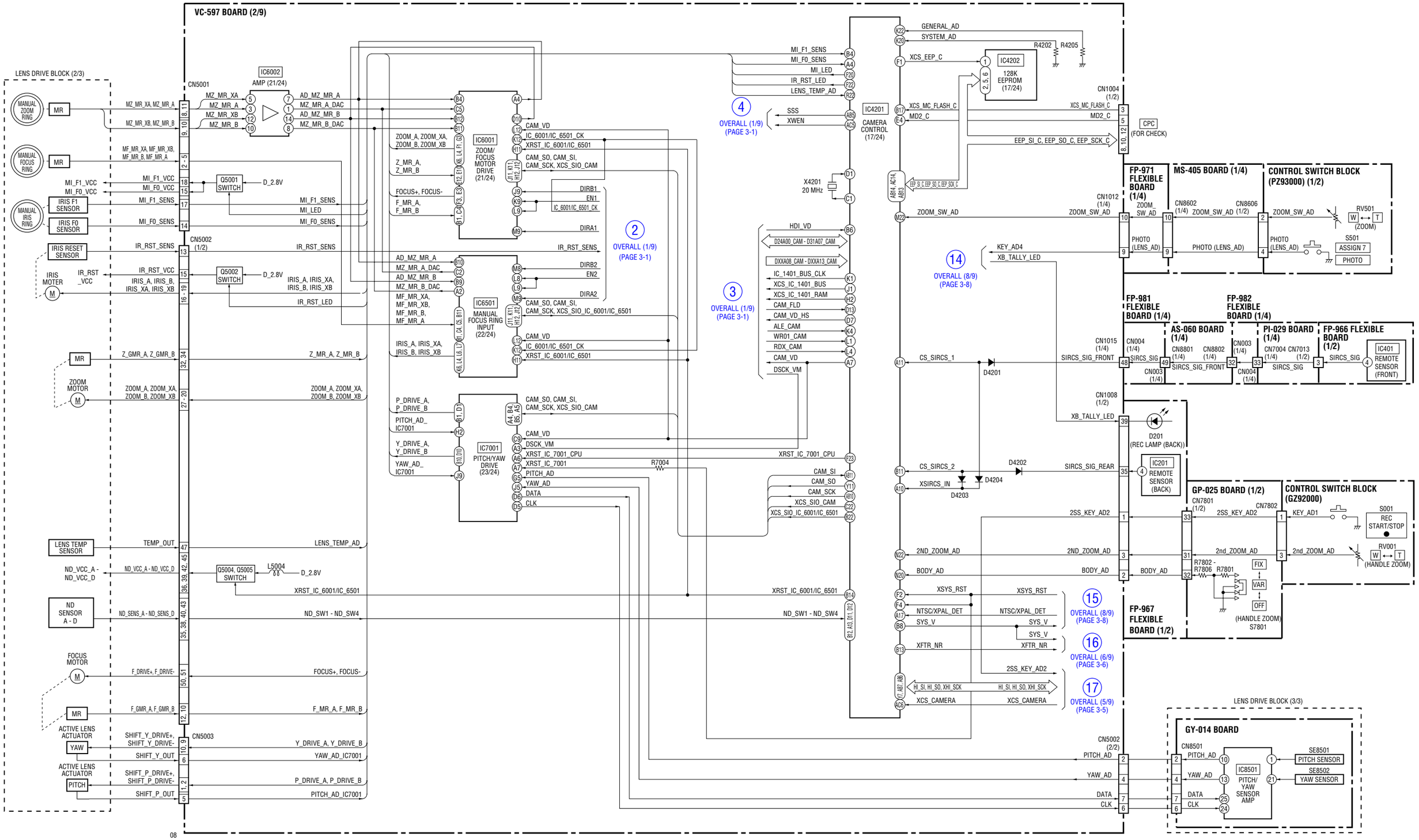
3-1. OVERALL BLOCK DIAGRAM (1/9)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



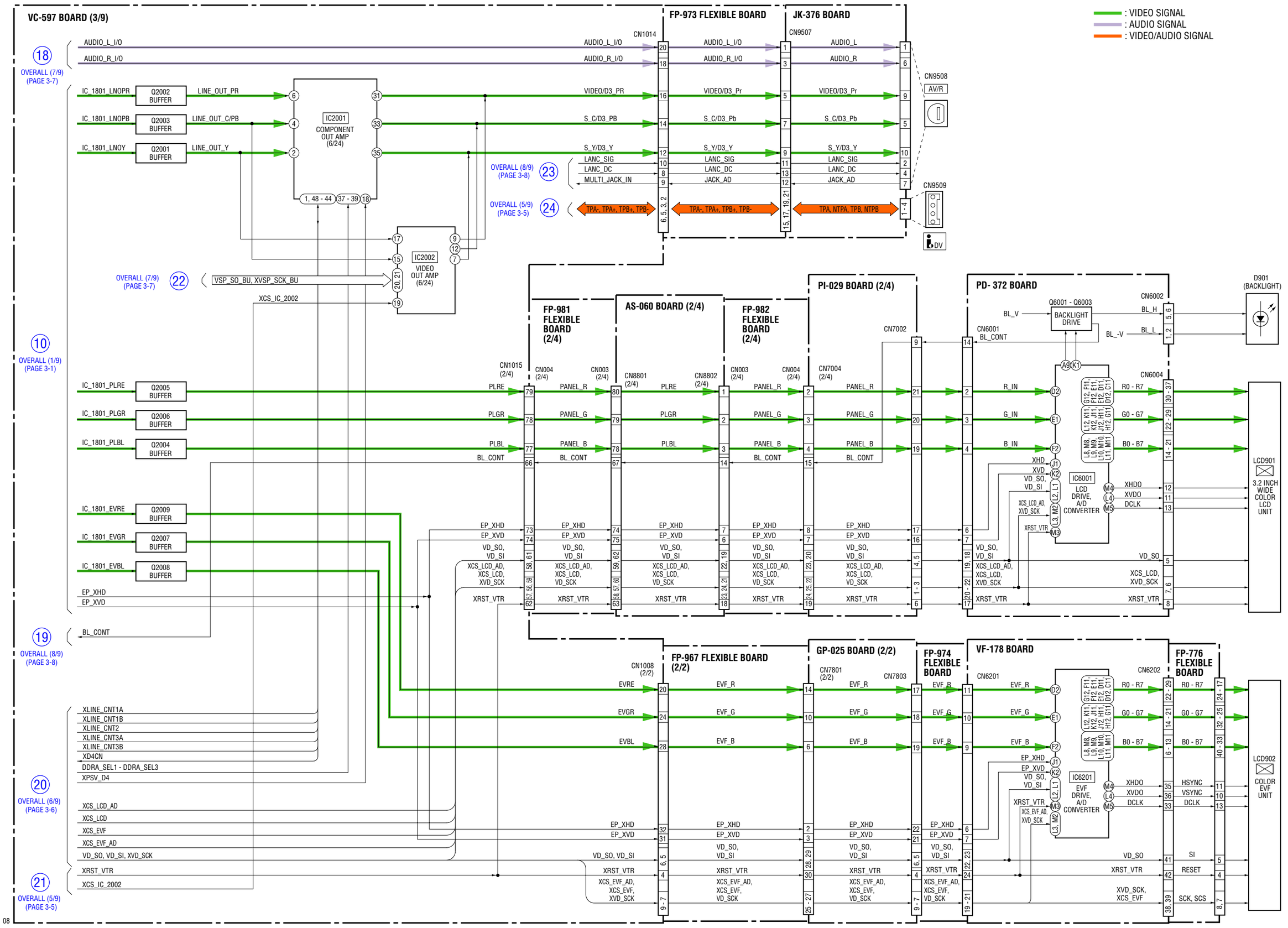
3-2. OVERALL BLOCK DIAGRAM (2/9)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



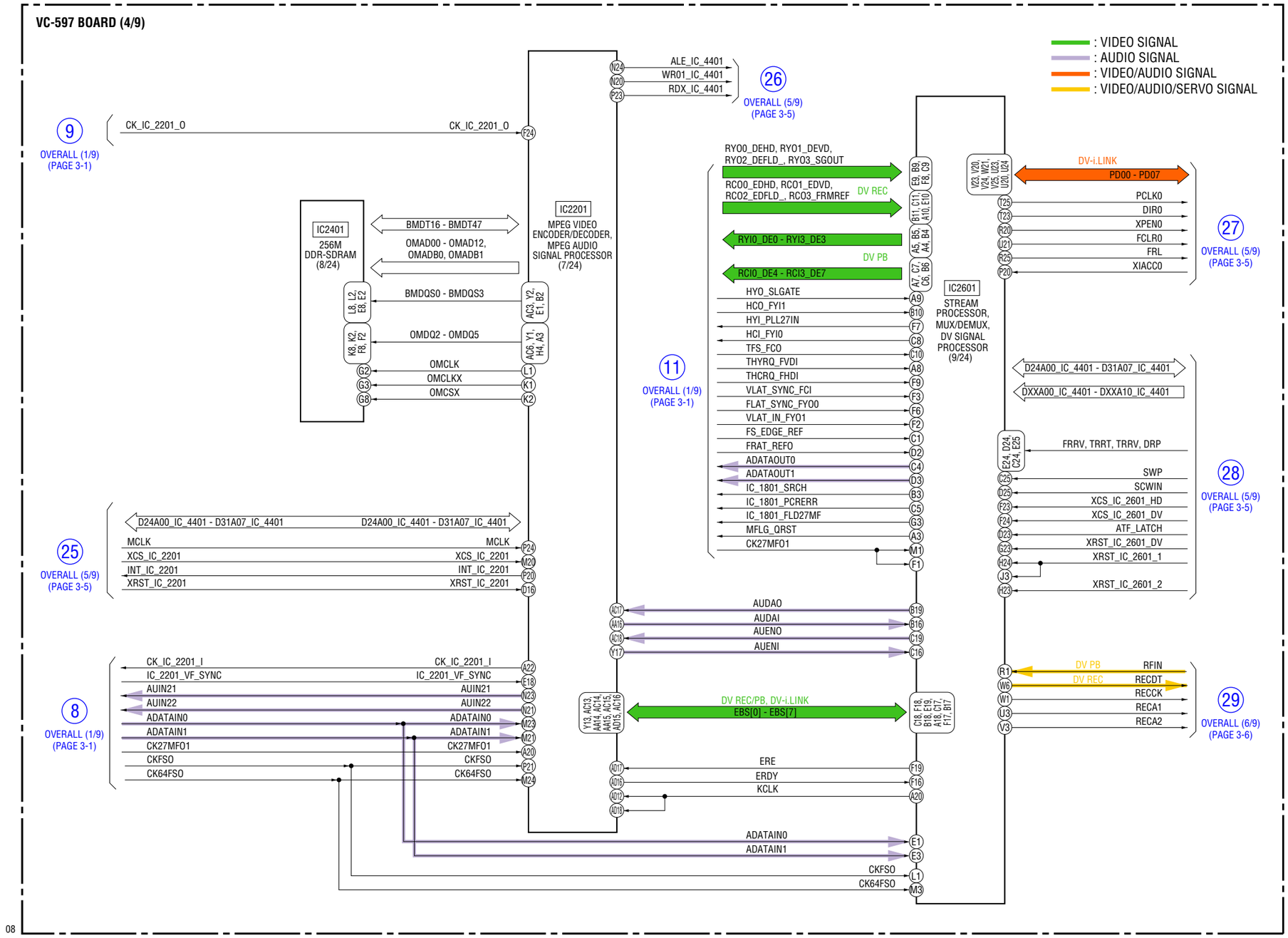
3-3. OVERALL BLOCK DIAGRAM (3/9)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



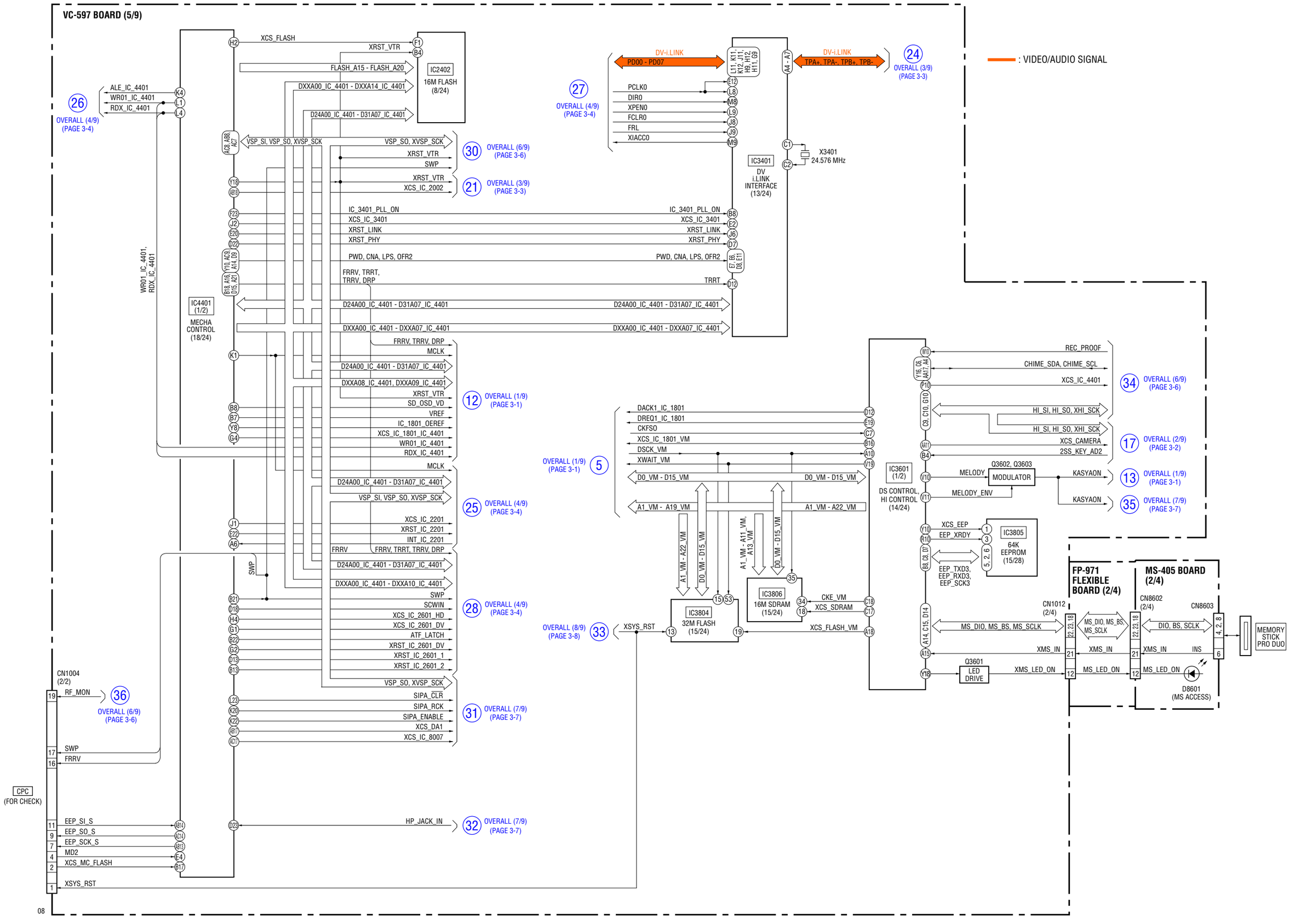
3-4. OVERALL BLOCK DIAGRAM (4/9)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



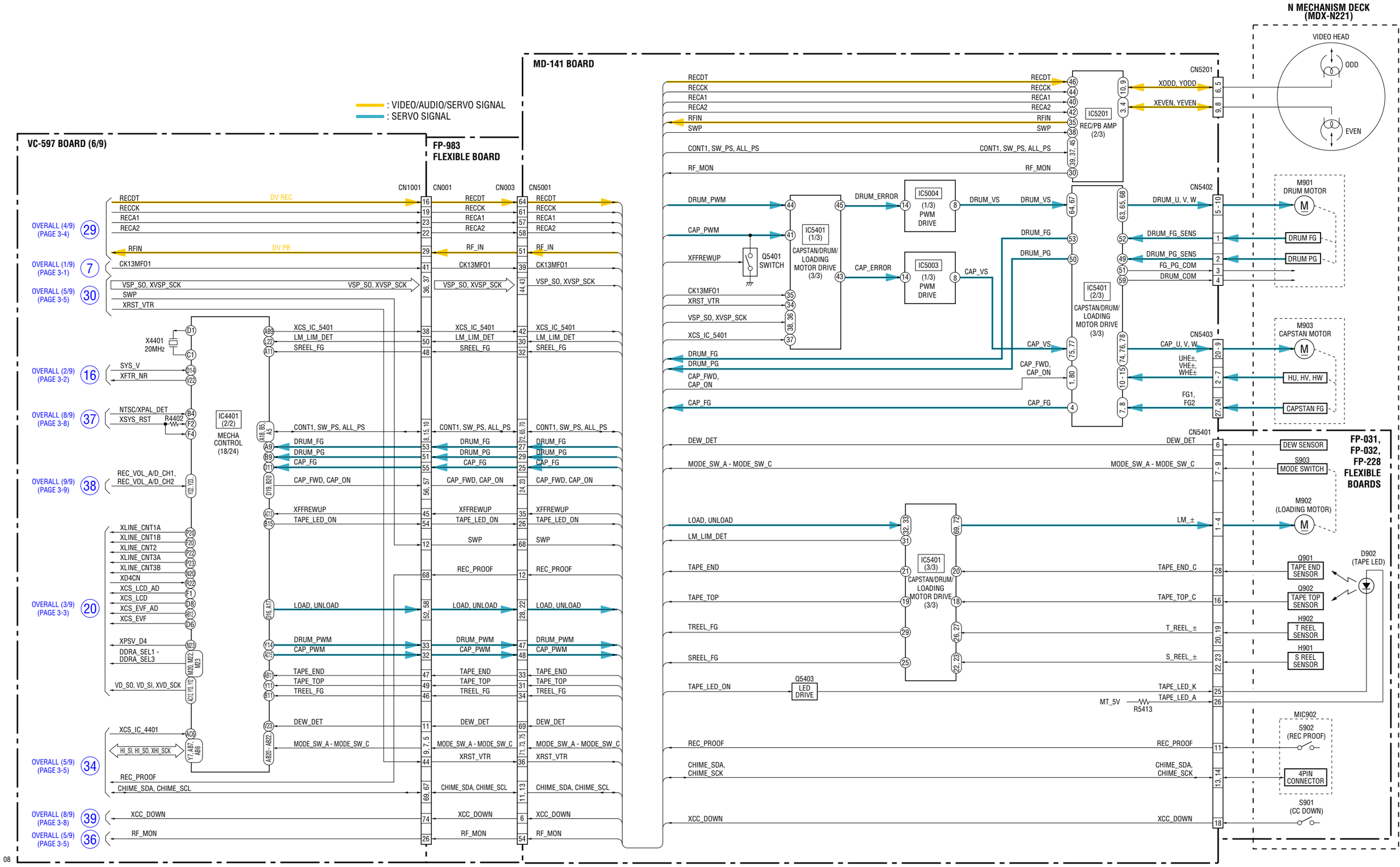
3-5. OVERALL BLOCK DIAGRAM (5/9)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



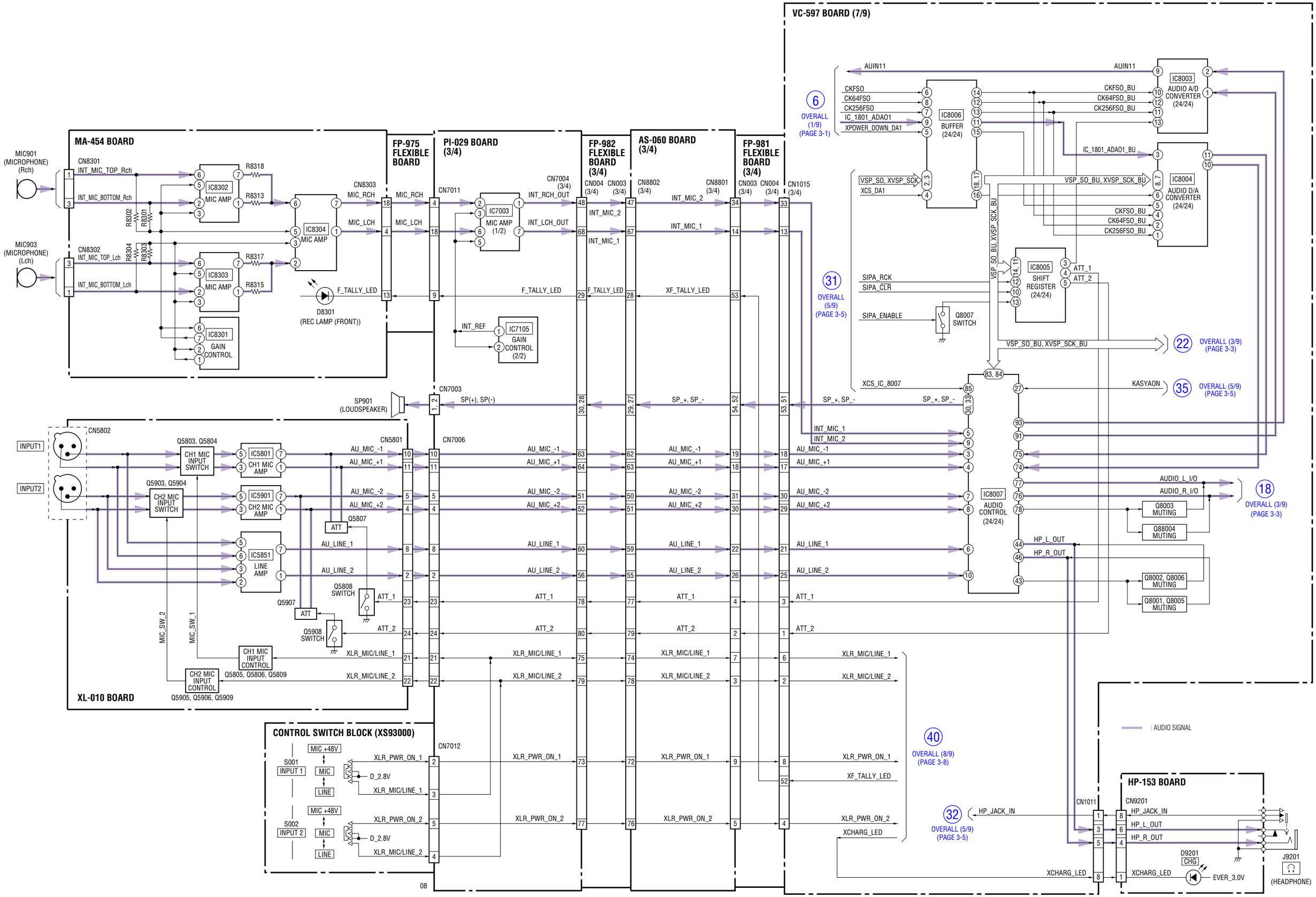
3-6. OVERALL BLOCK DIAGRAM (6/9)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



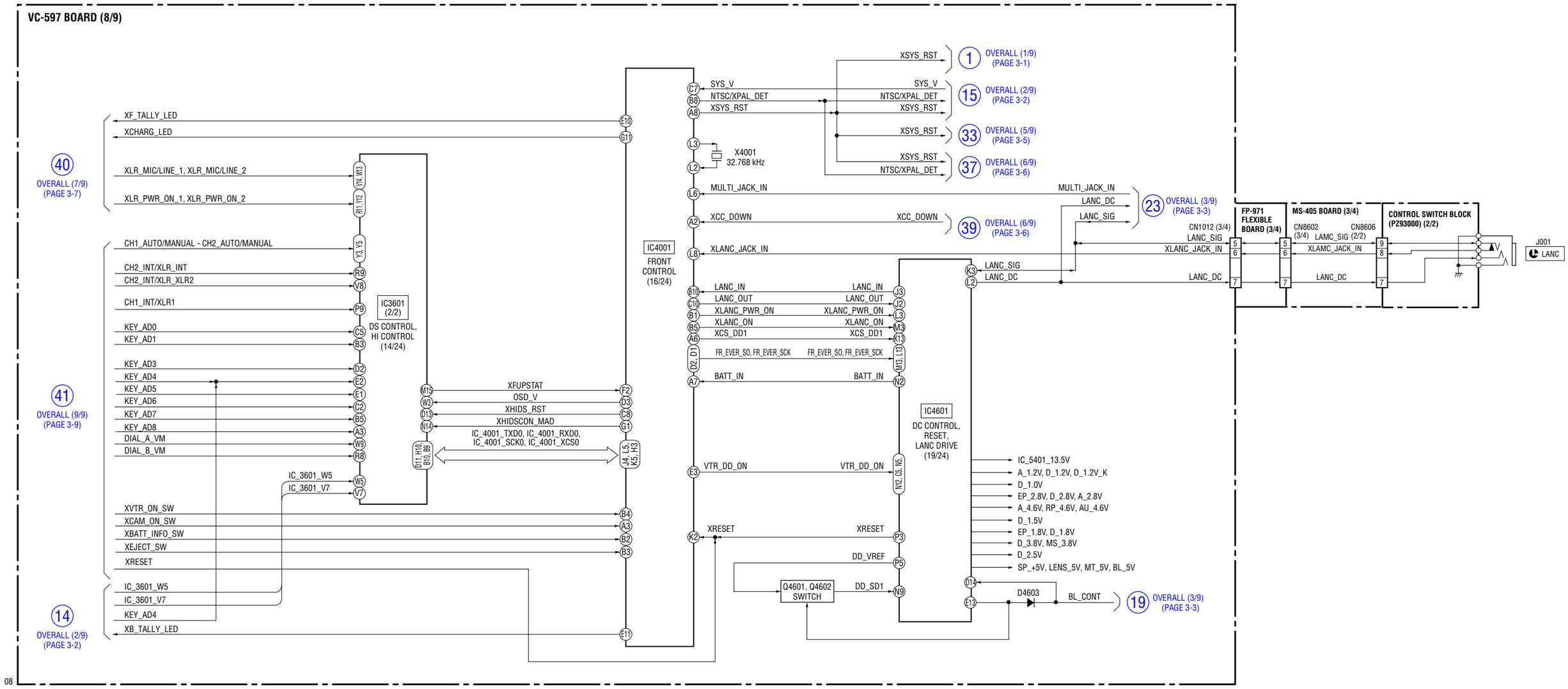
3-7. OVERALL BLOCK DIAGRAM (7/9)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



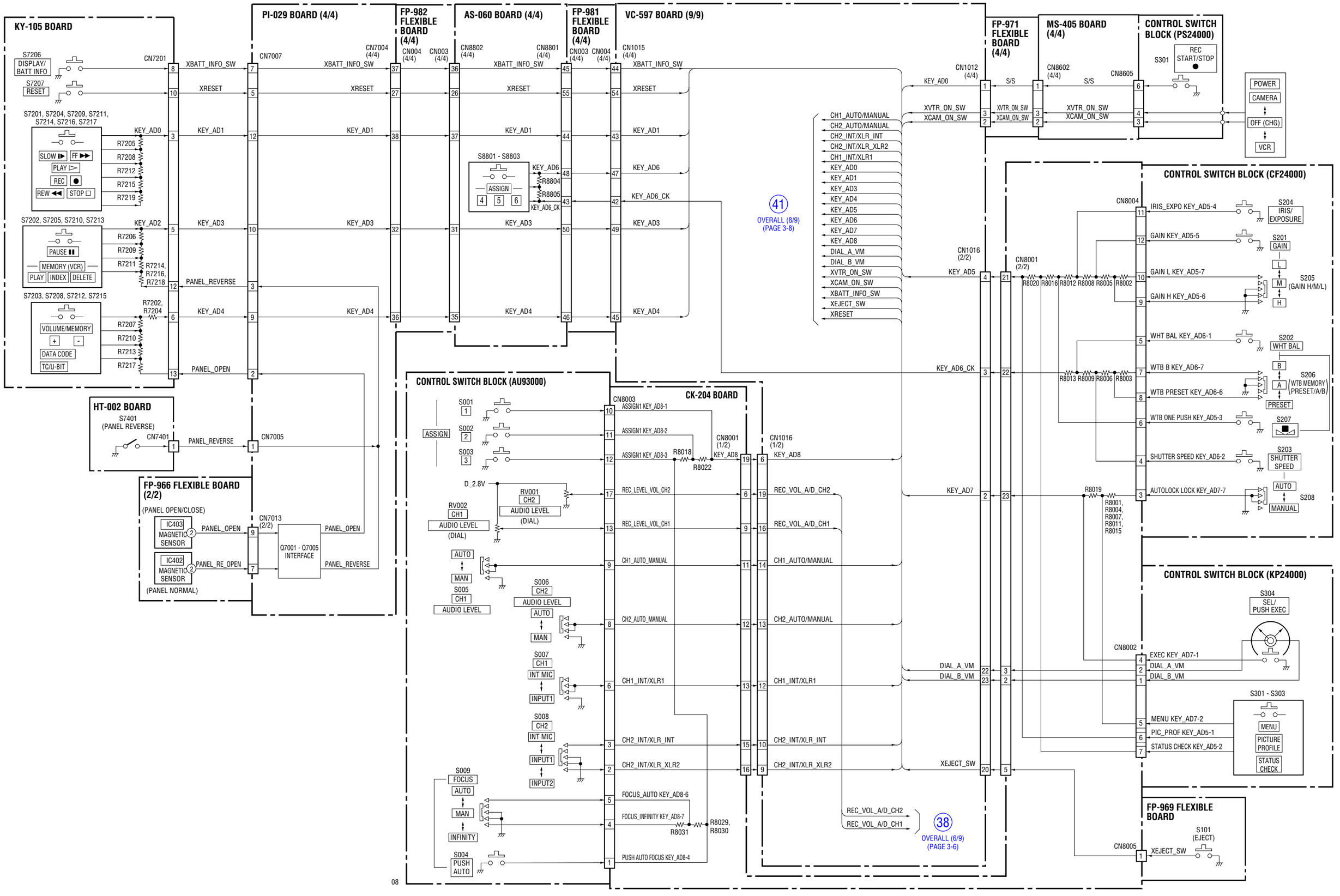
3-8. OVERALL BLOCK DIAGRAM (8/9)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



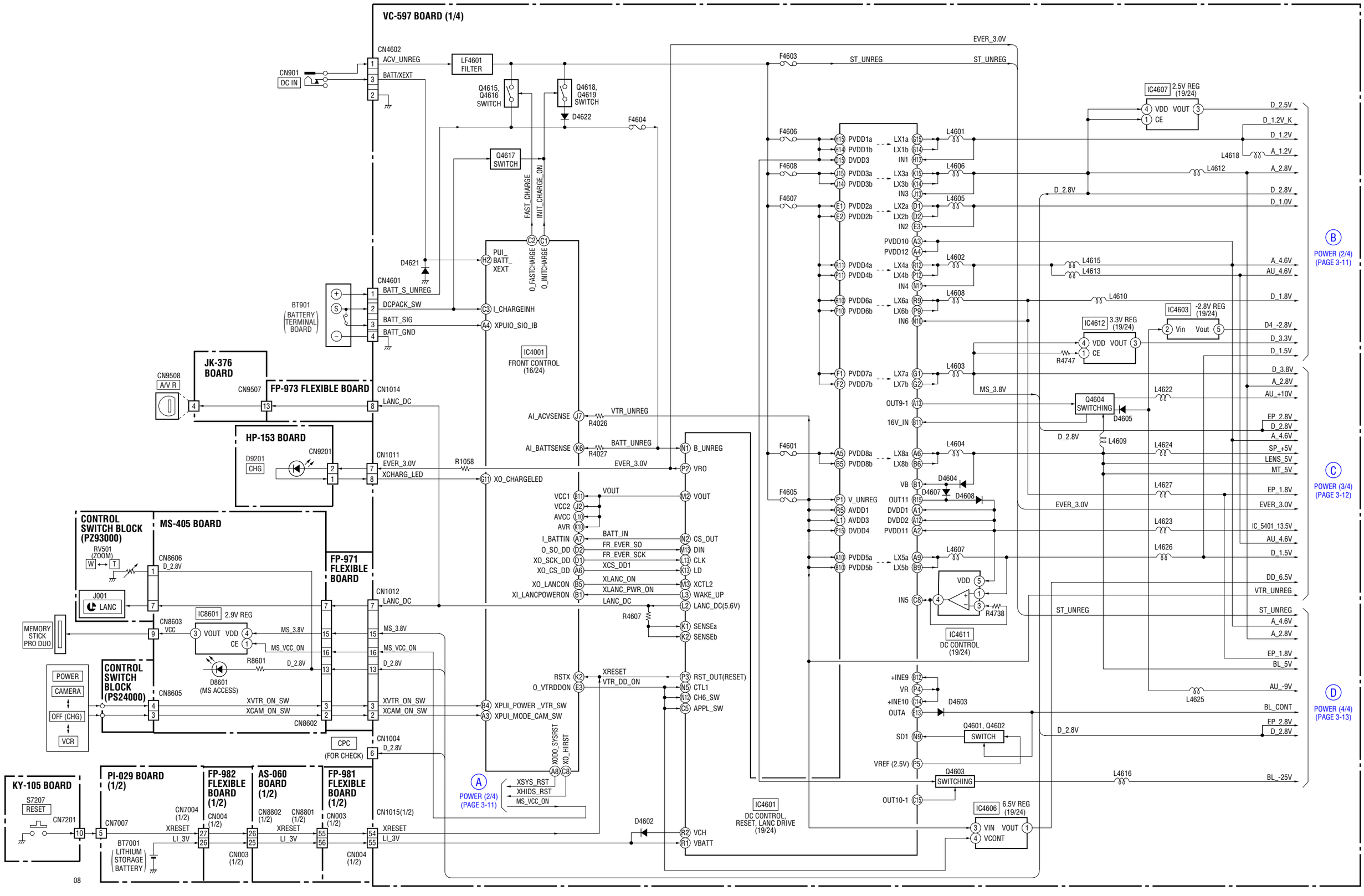
3-9. OVERALL BLOCK DIAGRAM (9/9)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



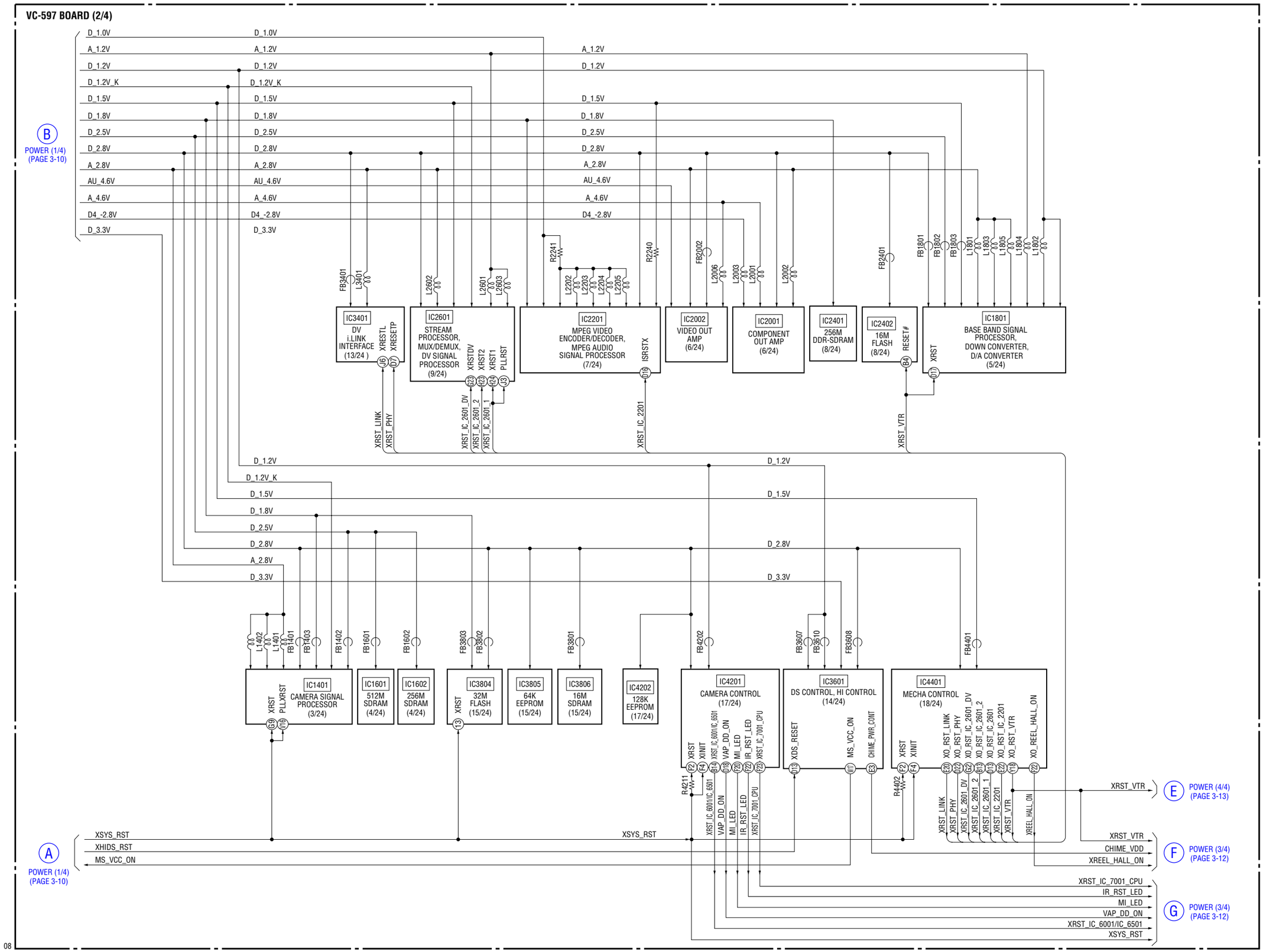
3-10. POWER BLOCK DIAGRAM (1/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



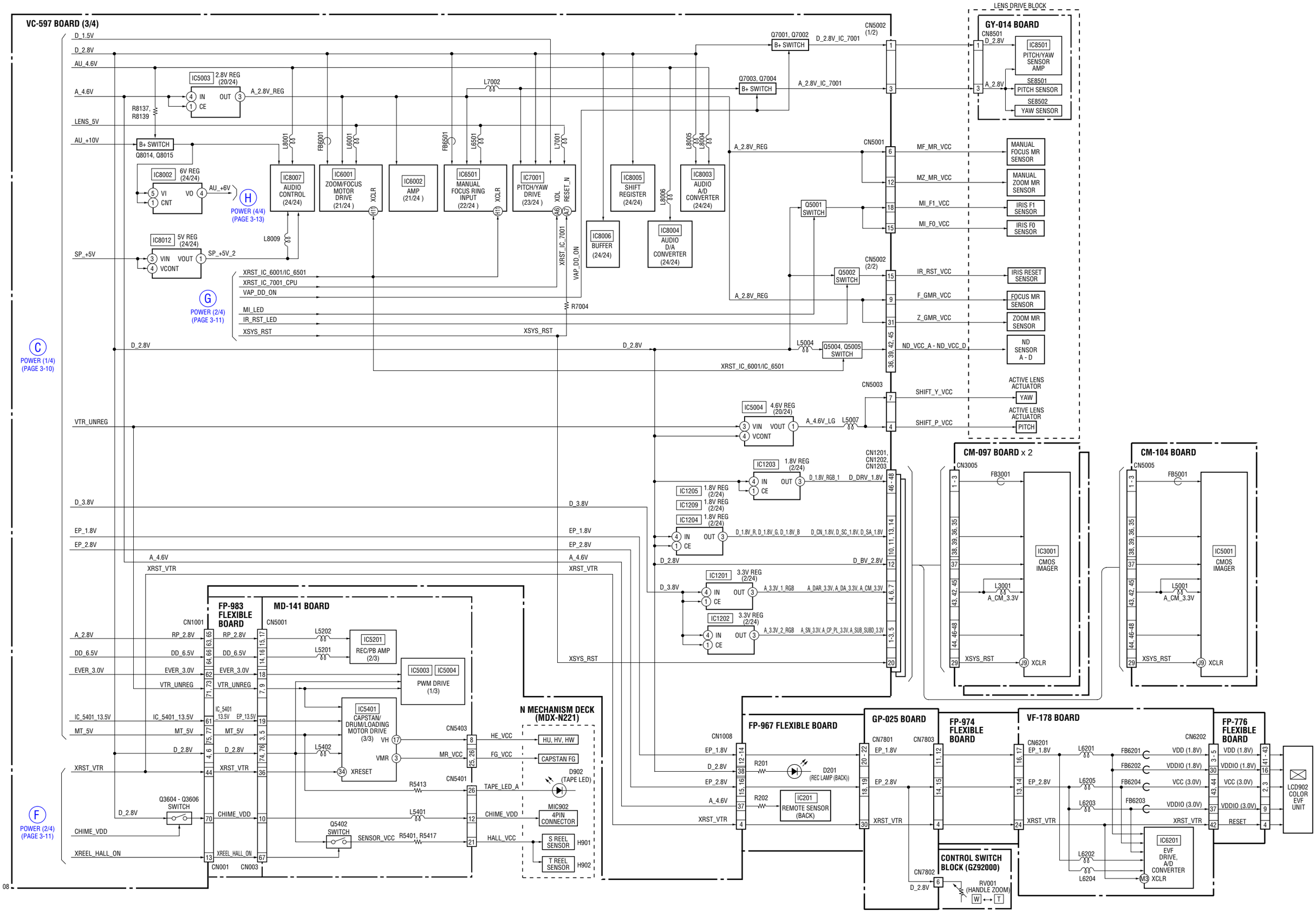
3-11. POWER BLOCK DIAGRAM (2/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



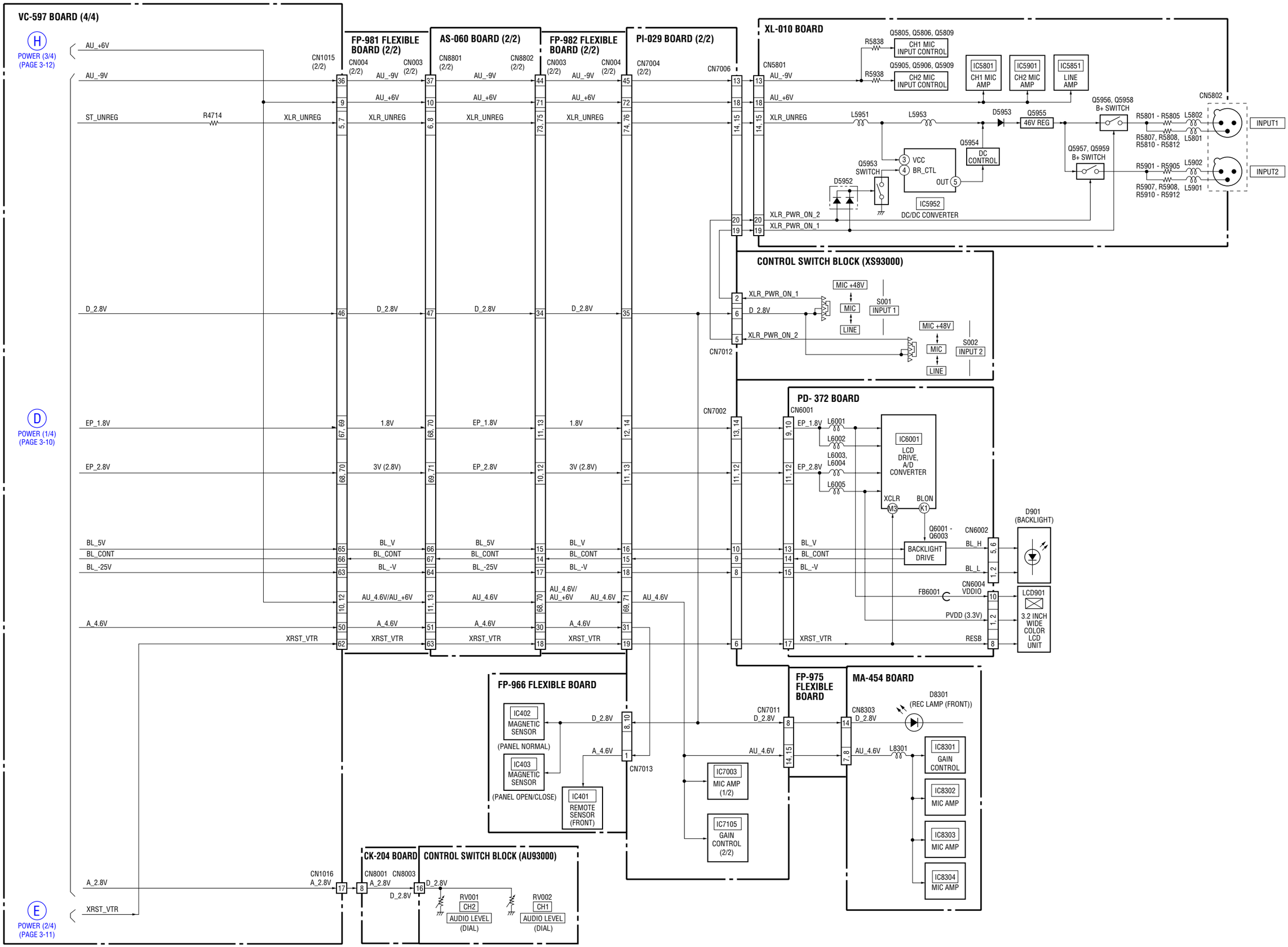
3-12. POWER BLOCK DIAGRAM (3/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



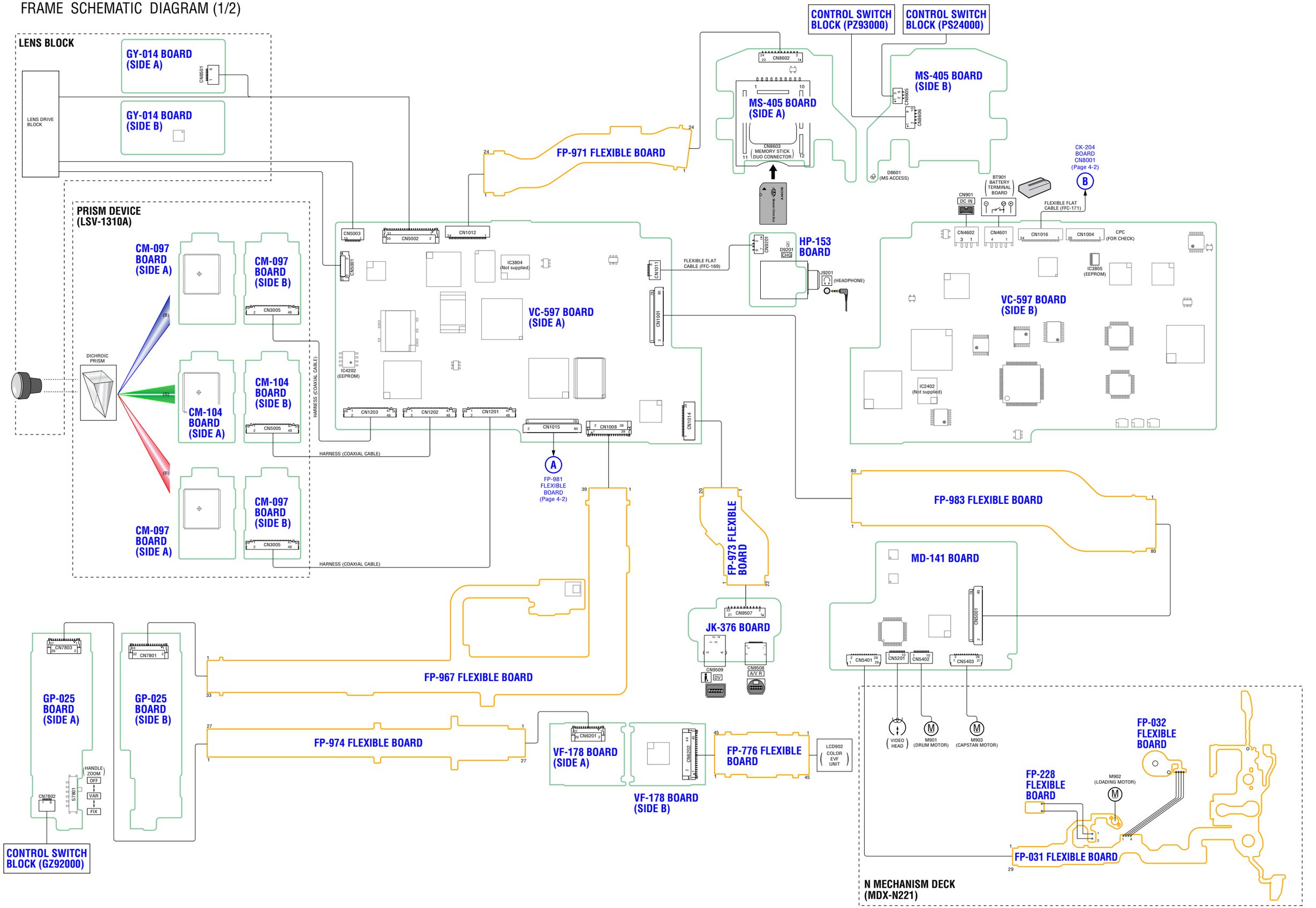
3-13. POWER BLOCK DIAGRAM (4/4)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

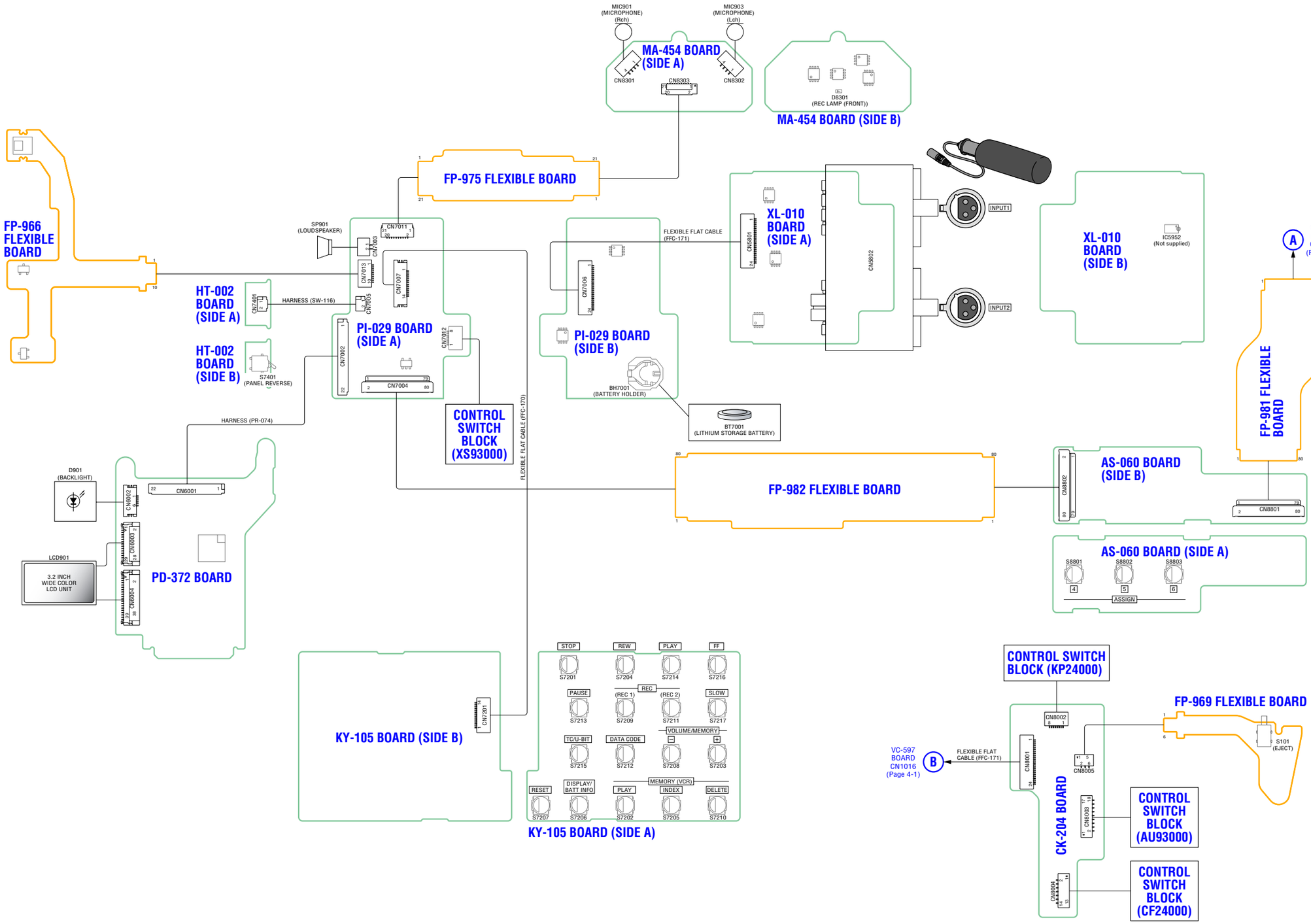


4-1. FRAME SCHEMATIC DIAGRAM

FRAME SCHEMATIC DIAGRAM (1/2)



FRAME SCHEMATIC DIAGRAM (2/2)



4-2. SCHEMATIC DIAGRAMS

TO (2/2)

Link

CM-097 BOARD (CMOS IMAGER (B/R))	VC-597 BOARD (17/24) (CAMERA CONTROL, EEPROM)
CM-104 BOARD (CMOS IMAGER (G))	VC-597 BOARD (18/24) (MECHA CONTROL)
VC-597 BOARD (1/24) (CONNECTORS)	VC-597 BOARD (19/24) (DC/DC CONVERTER)
VC-597 BOARD (2/24) (REGULATOR)	VC-597 BOARD (20/24) (LENS CONNECTOR)
VC-597 BOARD (3/24) (CAMERA SIGNAL PROCESS)	VC-597 BOARD (21/24) (ZOOM/FOCUS MOTOR DRIVE)
VC-597 BOARD (4/24) (SDRAM)	VC-597 BOARD (22/24) (LENS DRIVE)
VC-597 BOARD (5/24) (BASE BAND SIGNAL PROCESS)	VC-597 BOARD (23/24) (PITCH/YAW DRIVE)
VC-597 BOARD (6/24) (COMPONENT OUT AMP, VIDEO OUT AMP)	VC-597 BOARD (24/24) (AUDIO CONTROL)
VC-597 BOARD (7/24) (MPEG VIDEO ENCODER/DECODER)	PI-029 BOARD (1/2) (PANEL RELAY CONNECTOR)
VC-597 BOARD (8/24) (SDRAM, FLASH)	PI-029 BOARD (2/2) (EXT MIC AMP)
VC-597 BOARD (9/24) (VIDEO STREAM PROCESS)	PD-372 BOARD (LCD DRIVE, A/D CONVERTER)
VC-597 BOARD (10/24) (NOT USED)	VF-178 BOARD (EVF DRIVE, A/D CONVERTER)
VC-597 BOARD (11/24) (HDMI SIGNAL PROCESS (NOT USED))	MD-141 BOARD (1/3) (CAPSTAN/DRUM MOTOR DRIVE)
VC-597 BOARD (12/24) (HDMI TRANSMITTER (NOT USED))	MD-141 BOARD (2/3) (REC/PB AMP)
VC-597 BOARD (13/24) (DV i.LINK INTERFACE)	MD-141 BOARD (3/3) (SERVO)
VC-597 BOARD (14/24) (DS CONTROL, HI CONTROL)	GY-014 BOARD (PITCH/YAW SENSOR AMP)
VC-597 BOARD (15/24) (SDRAM, FLASH, EEPROM)	AS-060 BOARD (VC-PI RELAY)
VC-597 BOARD (16/24) (FRONT CONTROL)	CK-204 BOARD (CABINET (R) RELAY)

4-2. SCHEMATIC DIAGRAMS

TO (1/2)

- GP-025 BOARD (VC-VF RELAY)
- HP-153 BOARD (HEADPHONES JACK)
- JK-376 BOARD (DV, A/V R CONNECTOR)
- KY-105 BOARD (CONTROL SWITCH)
- MA-454 BOARD (MIC AMP)
- MS-405 BOARD (MS CONNECTOR)
- XL-010 BOARD (XLR INPUT)
- HT-002 BOARD (PANEL REVERSE DETECTION)
- FP-969 FLEXIBLE BOARD (EJECT SWITCH)
- FP-971 FLEXIBLE BOARD (VC-MS CONNECTION)
- FP-973 FLEXIBLE BOADR (VC-JK CONNECTION)
- FP-974 FLEXIBLE BOARD (GP-VF CONNECTION)
- FP-975 FLEXIBLE BOARD (PI-MA CONNECTION)
- FP-966 FLEXIBLE BOARD (REMOTE SENSOR(FRONT), PANEL DETECT)
- FP-967 FLEXIBLE BOARD (VC-GP CONNECTION, REMOTE SENSOR (BACK))
- FP-981 FLEXIBLE BOARD (VC-AS CONNECTION)
- FP-982 FLEXIBLE BOARD (AS-PI CONNECTION)
- FP-983 FLEXIBLE BOARD (VC-MD CONNECTION)
- FP-776 FLEXIBLE BOARD (VF-EVF CONNECTION)
- CONTROL SWITCH BLOCK (PS24000)
- CONTROL SWITCH BLOCK (PZ93000)
- CONTROL SWITCH BLOCK (AU93000)
- CONTROL SWITCH BLOCK (CF24000)
- CONTROL SWITCH BLOCK (GZ92000)
- CONTROL SWITCH BLOCK (KP24000)
- CONTROL SWITCH BLOCK (XS93000)
- FP-031, FP-032, FP-228 FLEXIBLE BOARD (MECHANISM BLOCK)
- COMMON NOTE FOR SCHEMATIC DIAGRAMS

4-2. SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For schematic diagrams)

- All capacitors are in µF unless otherwise noted. pF : µµF. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. kΩ=1000 Ω, MΩ=1000 kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

  Example C541 22U TA A — Kinds of capacitor / Case size; L452 10UH 2520 — External dimensions (mm)
- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination.
  Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- : non flammable resistor
- : fusible resistor
- : panel designation
- : B+ Line
- : B– Line
- : IN/OUT direction of (+,–) B LINE.
- : adjustment for repair.

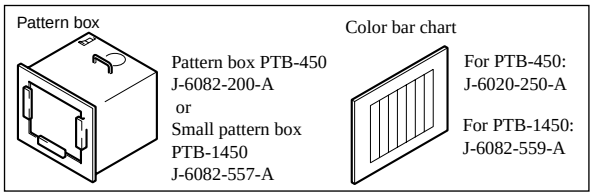
(Measuring conditions voltage and waveform)

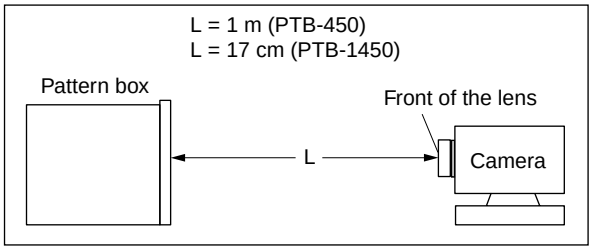
- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

Precautions for Replacement of Imager

- If the imager has been replaced, carry out all the adjustments for the camera section.
- As the imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

1. Connection





2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

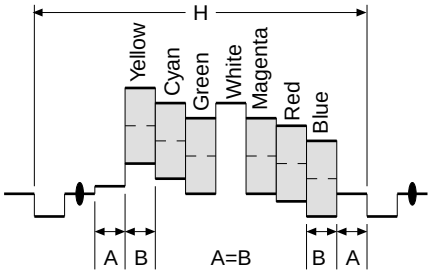


Fig. a (Video output terminal output waveform)

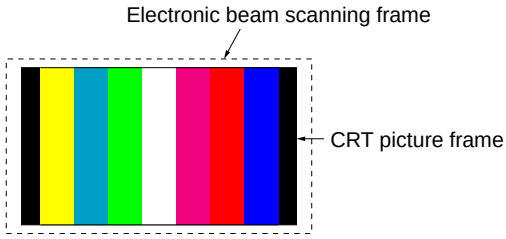
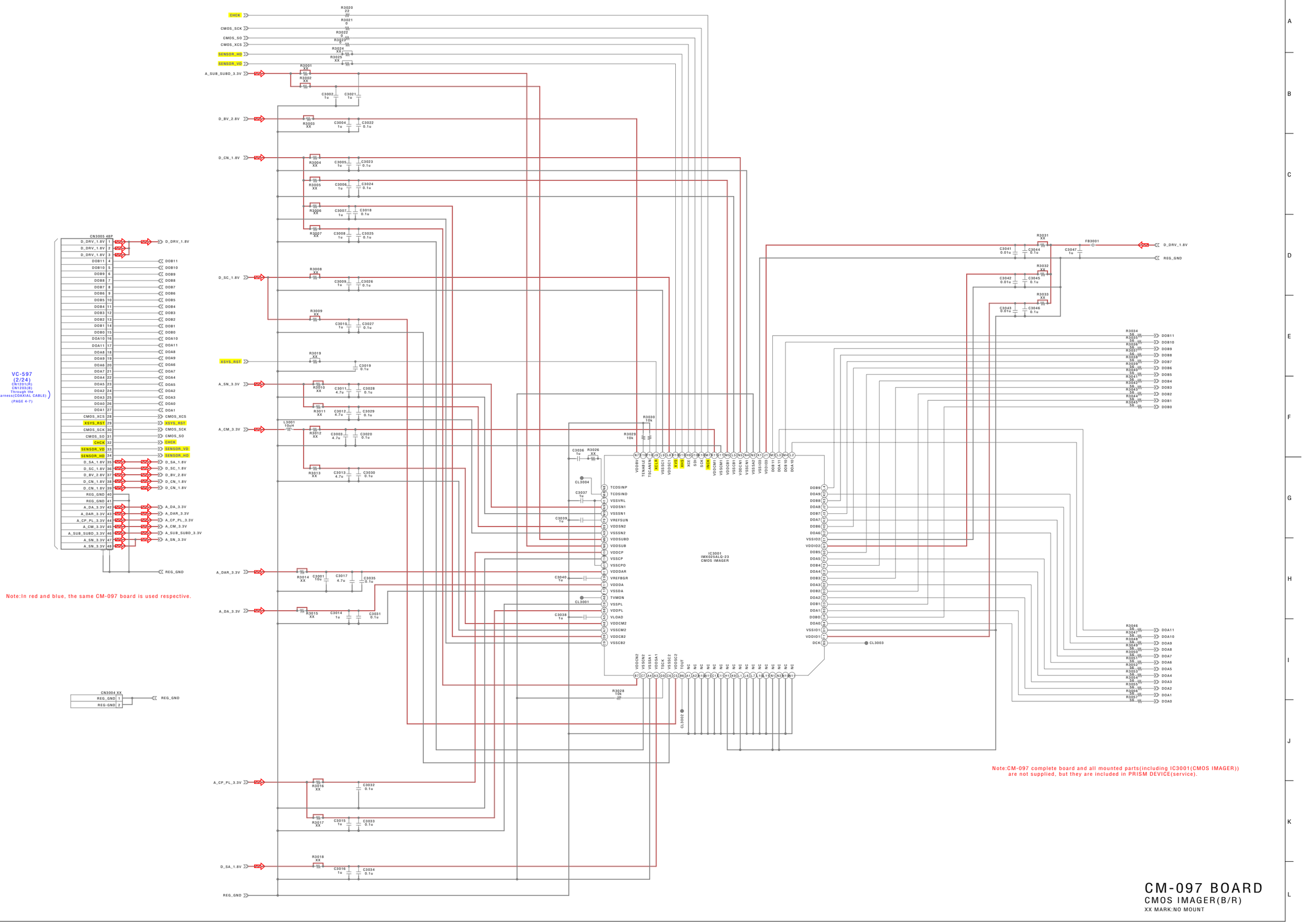


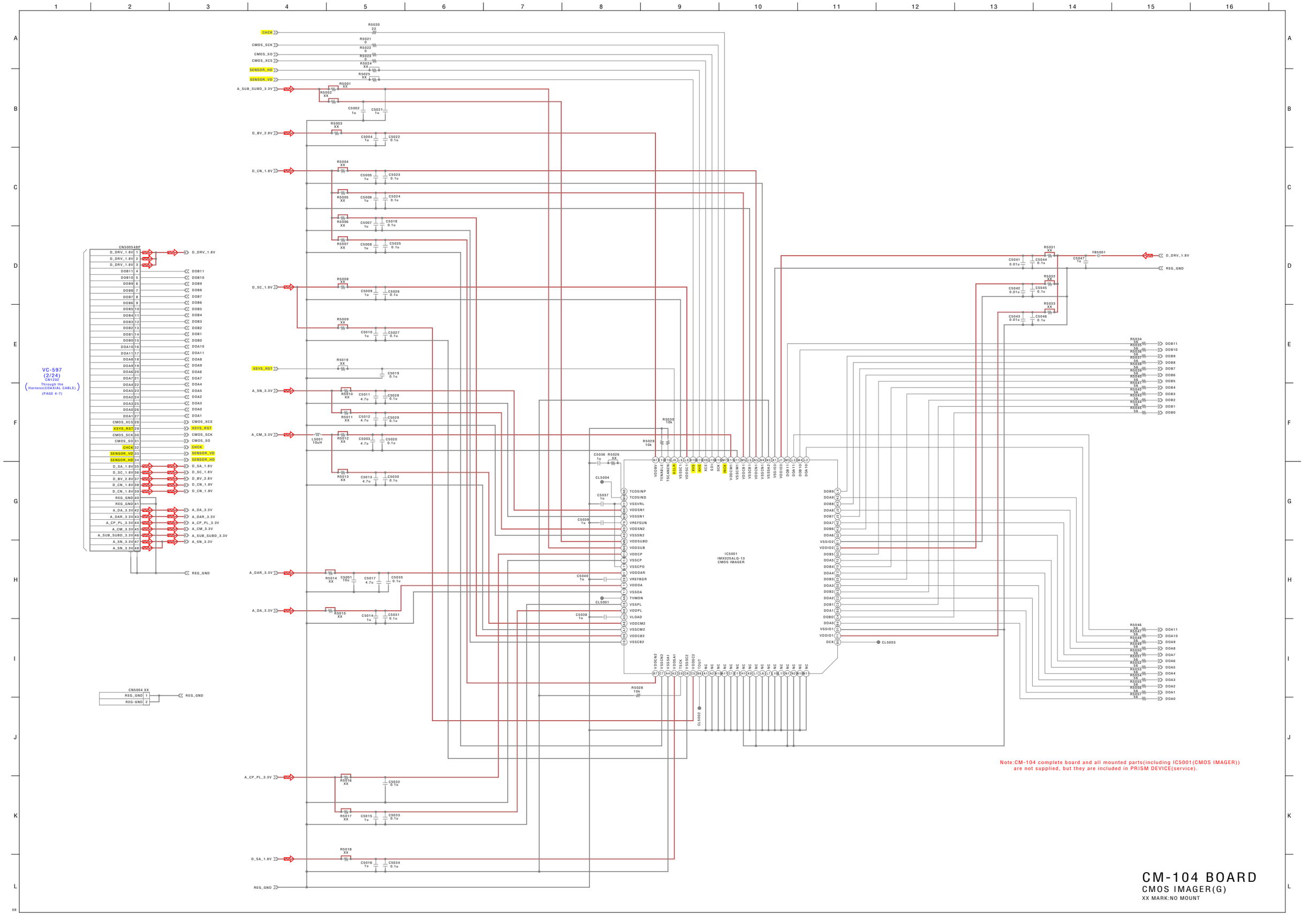
Fig.b (Picture on monitor TV)

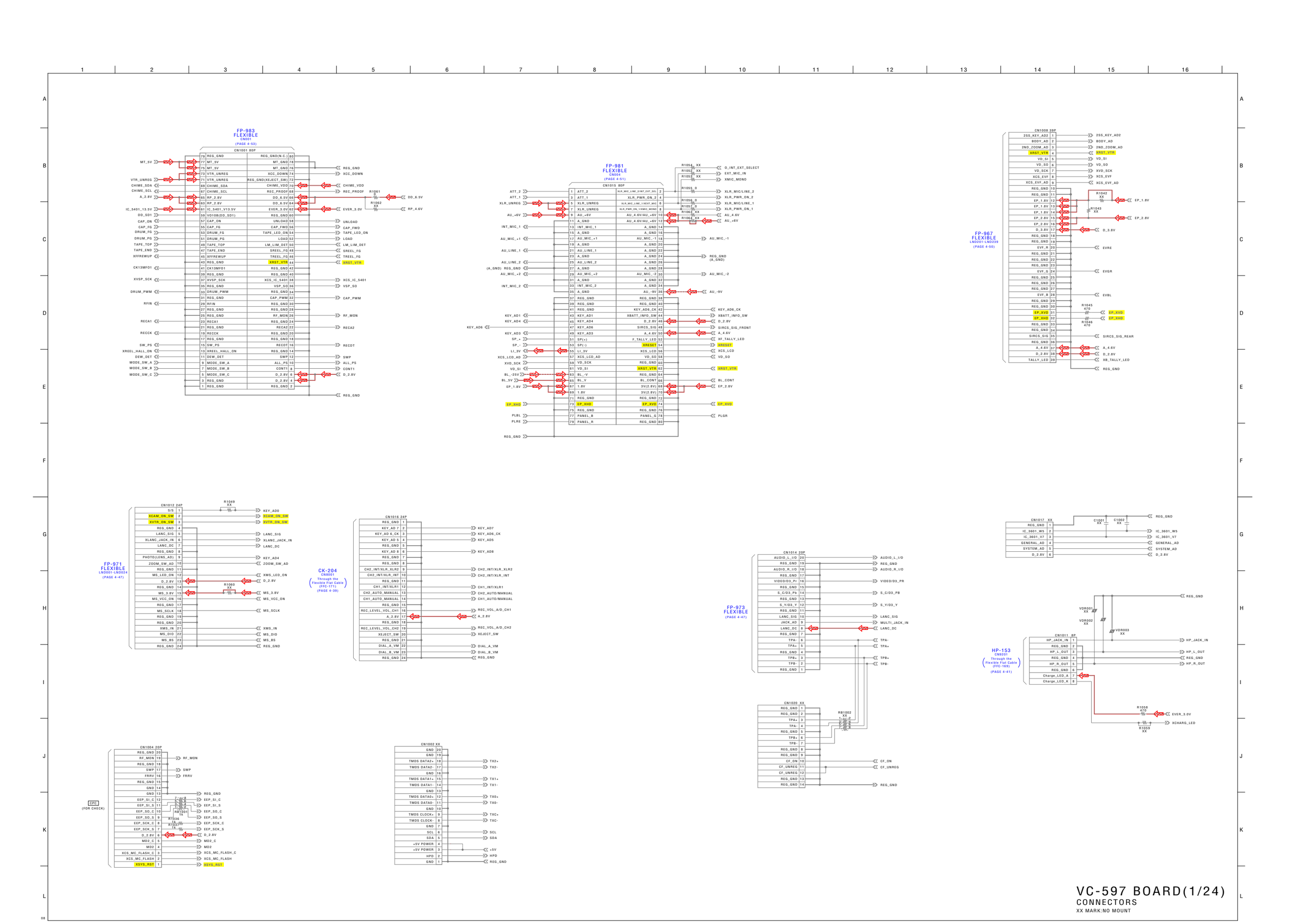
When indicating parts by reference number, please include the board name.

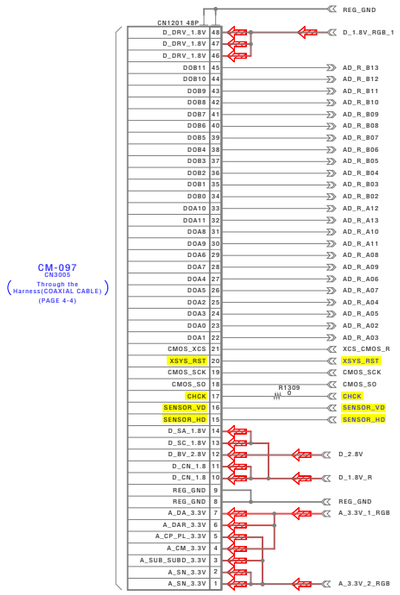
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifie.

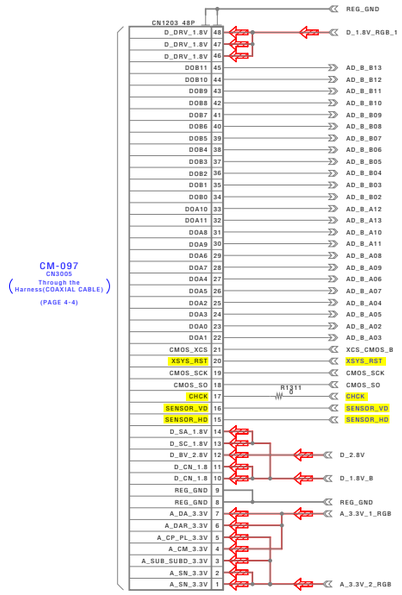

VC-597
(2/24)
CN1201(R)
CN1203(R)
Through the
Harness(COAXIAL CABLE)
(PAGE 4-7)
CN3005 48P
D_DRV_1.8V
D_SA_1.8V
D_SC_1.8V
D_BV_2.8V
D_CN_1.8V
REG_GND
A_DA_3.3V
A_DAR_3.3V
A_CP_PL_3.3V
A_CM_3.3V
A_SUB_SUBD_3.3V
A_SN_3.3V
DDB11
DDB10
DDB9
DDB8
DDB7
DDB6
DDB5
DDB4
DDB3
DDB2
DDB1
DDB0
DDA10
DDA11
DDA8
DDA9
DDA6
DDA7
DDA4
DDA5
DDA2
DDA3
DDA0
DDA1
CMOS_XCS
XSYS_RST
CMOS_SCK
CMOS_SO
CHCK
SENSOR_VD
SENSOR_HD
CN3004 XX
Note:In red and blue, the same CM-097 board is used respective.
CHCK
CMOS_SCK
CMOS_SO
CMOS_XCS
SENSOR_HD
SENSOR_VD
A_SUB_SUBD_3.3V
D_BV_2.8V
D_CN_1.8V
D_SC_1.8V
XSYS_RST
A_SN_3.3V
A_CM_3.3V
A_DAR_3.3V
A_DA_3.3V
A_CP_PL_3.3V
D_SA_1.8V
REG_GND
IC3001
IMX225ALQ-23
CMOS IMAGER
FB3001
Note:CM-097 complete board and all mounted parts(including IC3001(CMOS IMAGER))
are not supplied, but they are included in PRISM DEVICE(service).
CM-097 BOARD
CMOS IMAGER(B/R)
XX MARK:NO MOUNT


VC-597
(2/24)
CN1202
Through the Harness(COAXIAL CABLE)
(PAGE 4-7)
CN500548P
D_DRV_1.8V
D_SA_1.8V
D_SC_1.8V
D_BV_2.8V
D_CN_1.8V
REG_GND
A_DA_3.3V
A_DAR_3.3V
A_CP_PL_3.3V
A_CM_3.3V
A_SUB_SUBD_3.3V
A_SN_3.3V
CMOS_XCS
CMOS_SCK
CMOS_SO
CHCK
SENSOR_VD
SENSOR_HD
XSYS_RST
DDA0
DDA1
DDA2
DDA3
DDA4
DDA5
DDA6
DDA7
DDA8
DDA9
DDA10
DDA11
DDB0
DDB1
DDB2
DDB3
DDB4
DDB5
DDB6
DDB7
DDB8
DDB9
DDB10
DDB11
CN5004 XX
IC5001
IMX025ALQ-13
CMOS IMAGER
FB5001
CL5001
CL5002
CL5003
CL5004
Note:CM-104 complete board and all mounted parts(including IC5001(CMOS IMAGER)) are not supplied, but they are included in PRISM DEVICE(service).
CM-104 BOARD
CMOS IMAGER(G)
XX MARK:NO MOUNT

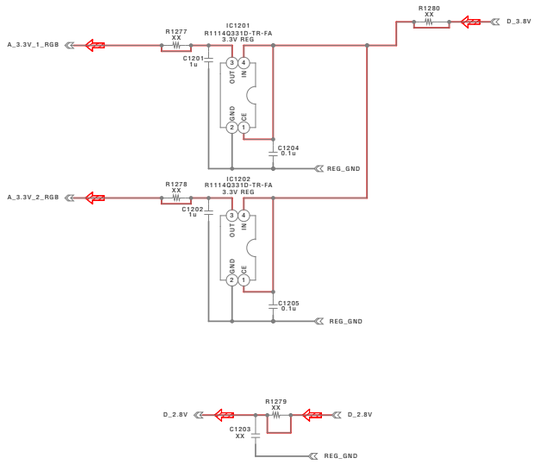

FP-983
FLEXIBLE
CN001
(PAGE 4-53)
CN1001 80P
FP-981
FLEXIBLE
CN004
(PAGE 4-51)
CN1015 80P
FP-967
FLEXIBLE
LND201-LND239
(PAGE 4-50)
CN1008 39P
FP-971
FLEXIBLE
LND001-LND024
(PAGE 4-47)
CN1012 24P
CK-204
CN8001
Through the Flexible Flat Cable (FFC-171)
(PAGE 4-39)
CN1016 24P
FP-973
FLEXIBLE
(PAGE 4-47)
CN1014 20P
CN1020 XX
HP-153
CN9201
Through the Flexible Flat Cable (FFC-169)
(PAGE 4-41)
CN1011 8P
CN1017 XX
CN1004 20P
CN1002 XX
CPC
(FOR CHECK)
VC-597 BOARD(1/24)
CONNECTORS
XX MARK:NO MOUNT

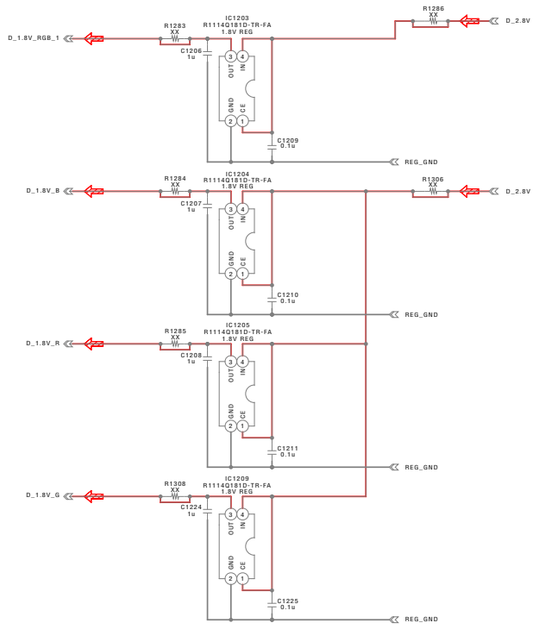


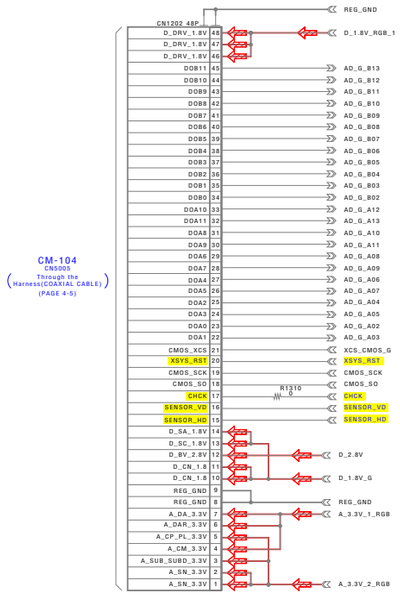
Note:In red and blue, the same CM-097 board is used respectively.

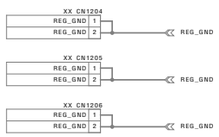


Note:In red and blue, the same CM-097 board is used respectively.

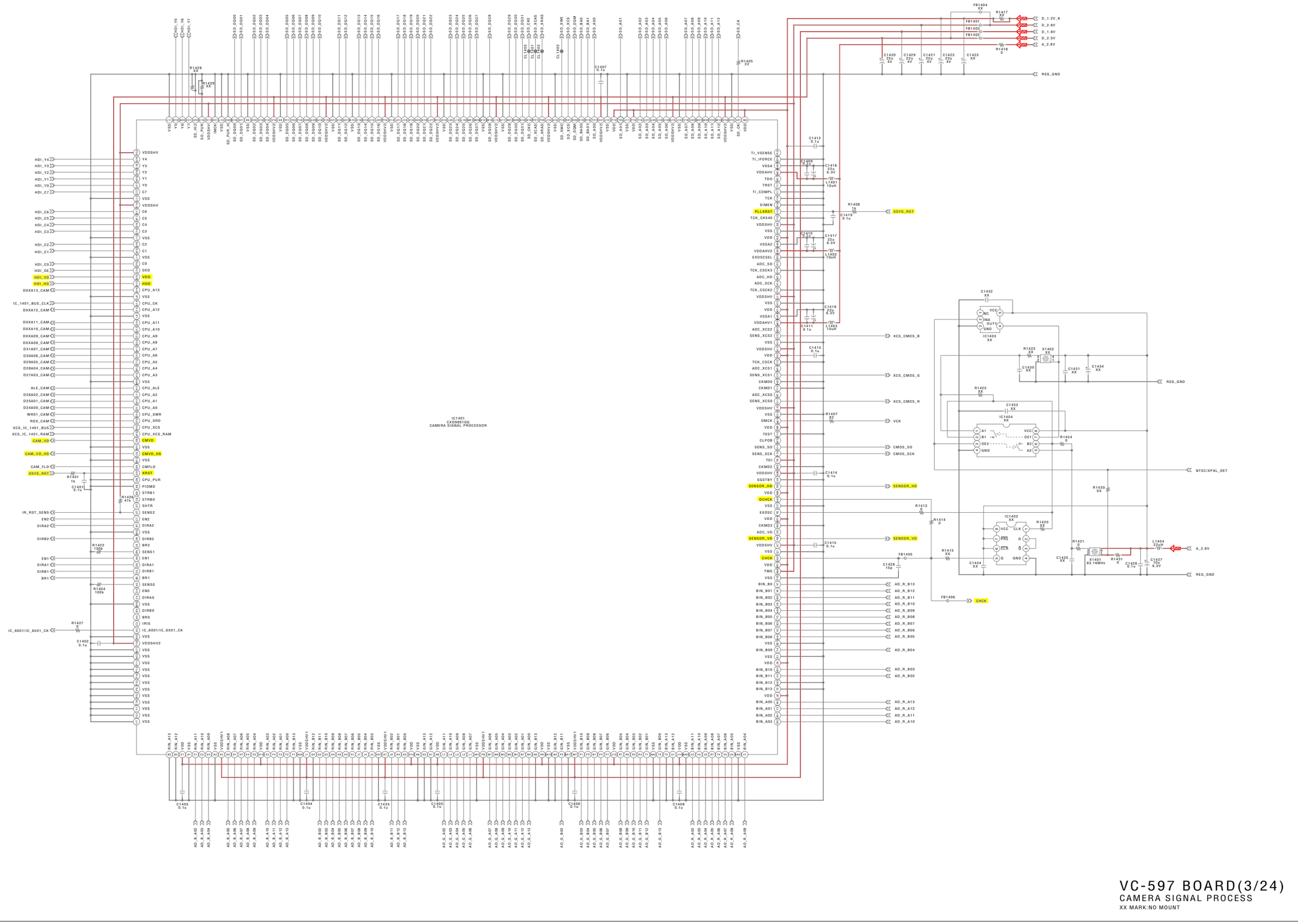


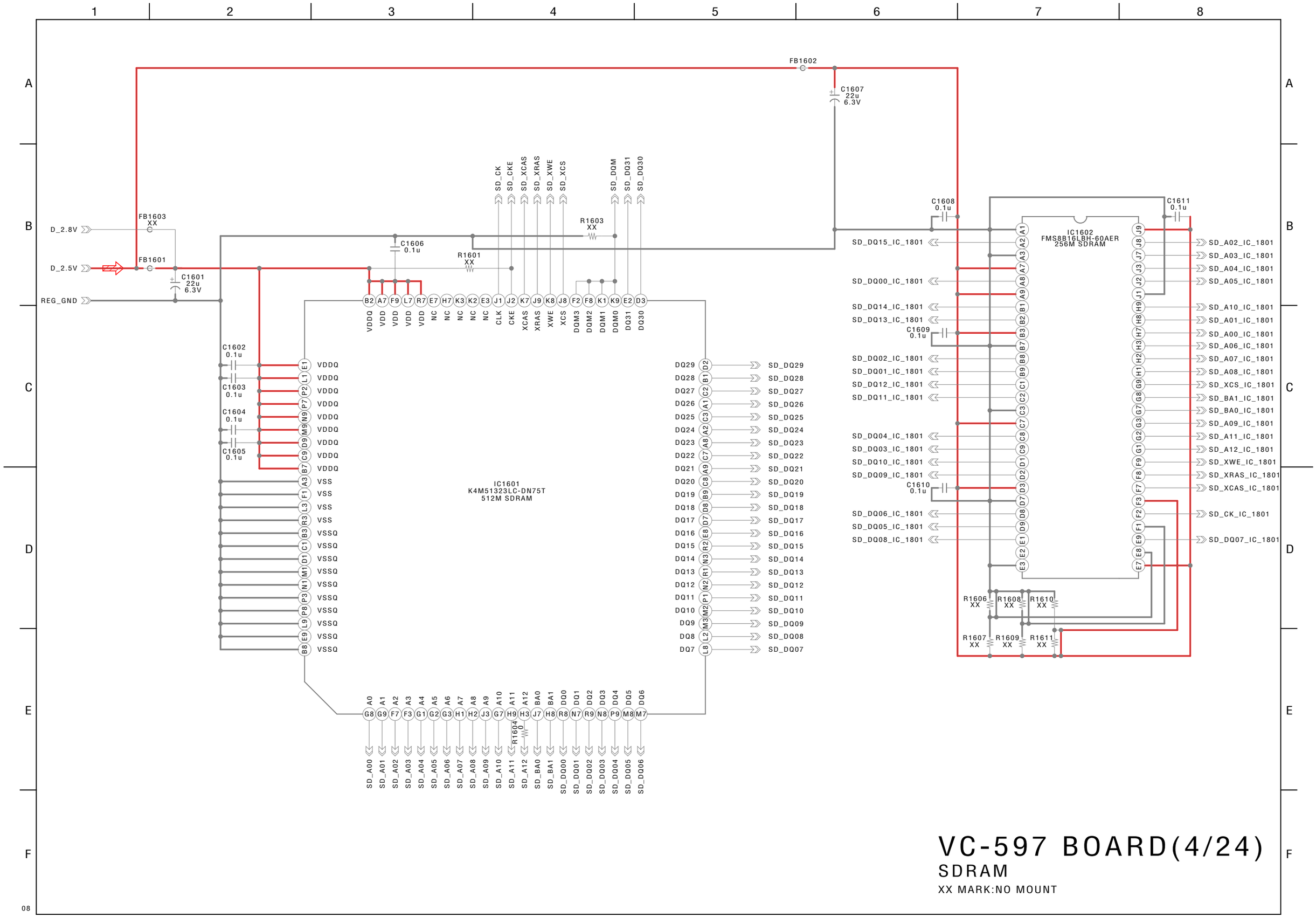


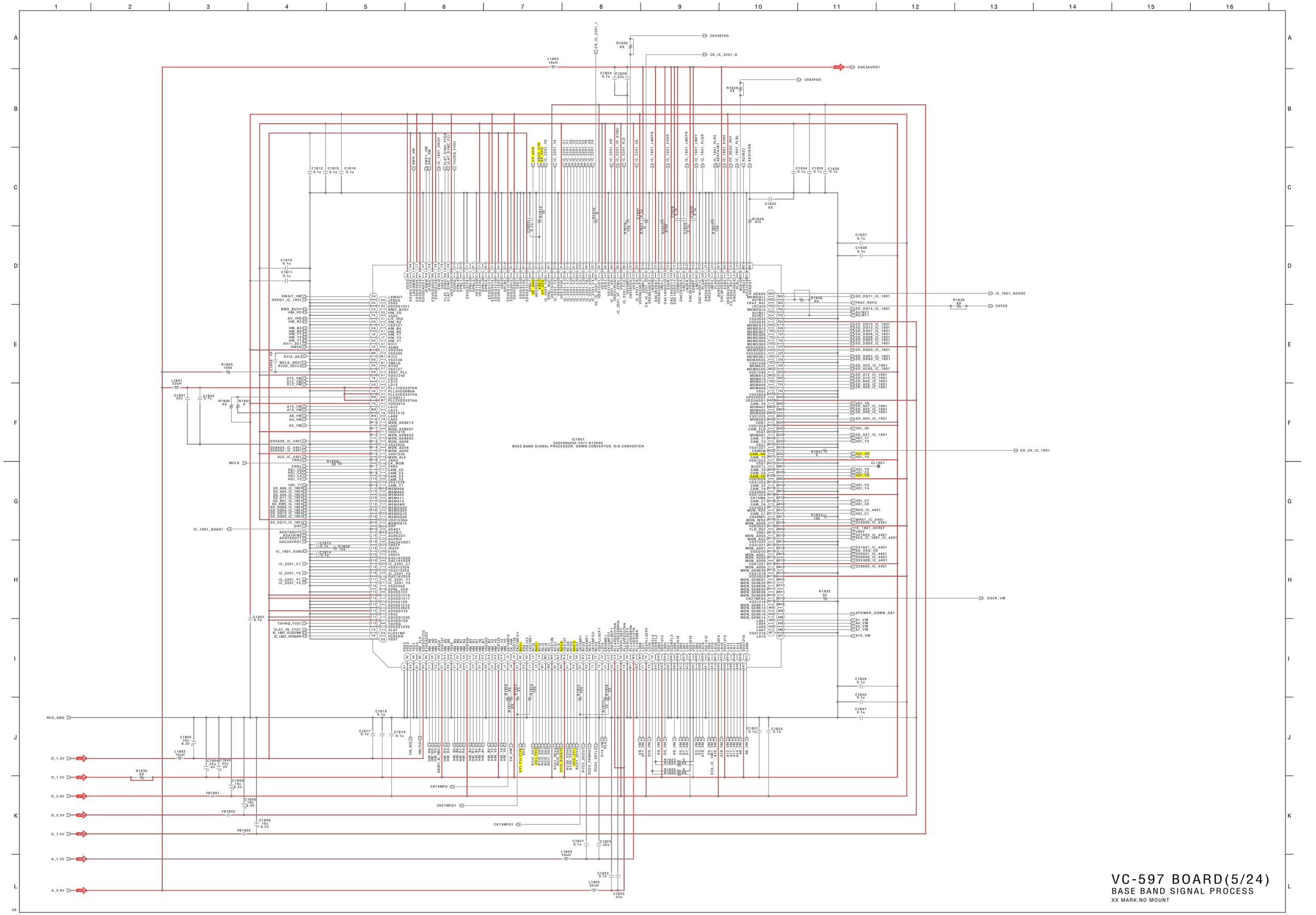


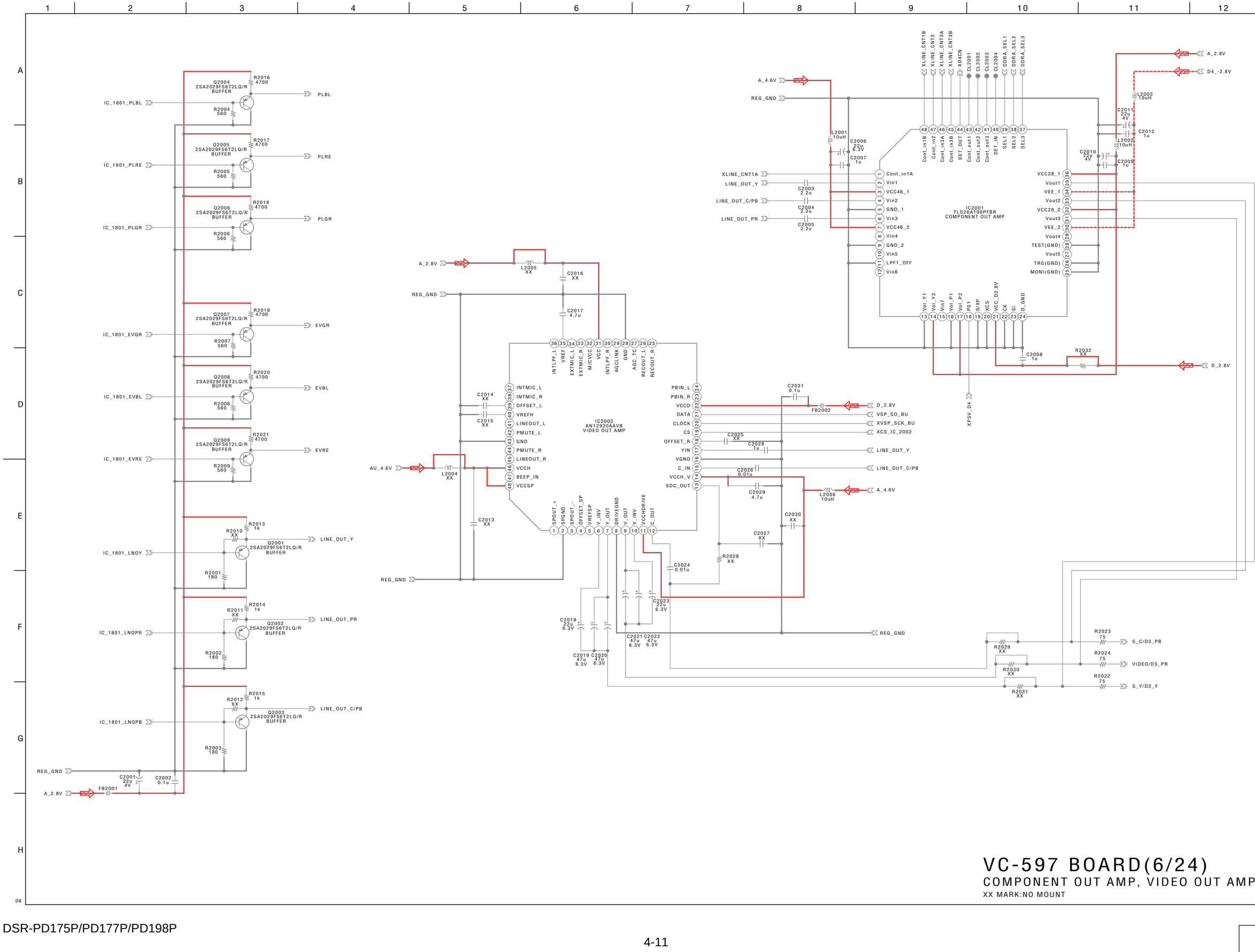


VC-597 BOARD(2/24)
REGULATOR
XX MARK:NO MOUNT


IC1401
CX09891GG
CAMERA SIGNAL PROCESSOR
VC-597 BOARD(3/24)
CAMERA SIGNAL PROCESS
XX MARK:NO MOUNT


FB1602
C1607 22u 6.3V
FB1603 XX
FB1601
D_2.8V
D_2.5V
REG_GND
C1601 22u 6.3V
C1606 0.1u
R1601 XX
R1603 XX
SD_CK
SD_CKE
SD_XCAS
SD_XRAS
SD_XWE
SD_XCS
SD_DQM
SD_DQ31
SD_DQ30
B2 A7 F9 L7 R7 E7 H7 K3 K2 E3 J1 J2 K7 J9 K8 J8 F2 F8 K1 K9 E2 D3
VDDQ VDD VDD VDD VDD NC NC NC NC NC CLK CKE XCAS XRAS XWE XCS DQM3 DQM2 DQM1 DQM0 DQ31 DQ30
C1602 0.1u
C1603 0.1u
C1604 0.1u
C1605 0.1u
E1 L1 P2 P7 N9 M9 D9 C9 B7
VDDQ
A3 F1 L3 R3 B3 C1 D1 M1 N1 P3 P8 L9 E9 B8
VSS
VSSQ
IC1601
K4M51323LC-DN75T
512M SDRAM
DQ29 D2
DQ28 B1
DQ27 C2
DQ26 A1
DQ25 C3
DQ24 A2
DQ23 A8
DQ22 C7
DQ21 A9
DQ20 C8
DQ19 B9
DQ18 D8
DQ17 D7
DQ16 E8
DQ15 R2
DQ14 N3
DQ13 R1
DQ12 N2
DQ11 P1
DQ10 M2
DQ9 M3
DQ8 L2
DQ7 L8
SD_DQ29
SD_DQ28
SD_DQ27
SD_DQ26
SD_DQ25
SD_DQ24
SD_DQ23
SD_DQ22
SD_DQ21
SD_DQ20
SD_DQ19
SD_DQ18
SD_DQ17
SD_DQ16
SD_DQ15
SD_DQ14
SD_DQ13
SD_DQ12
SD_DQ11
SD_DQ10
SD_DQ9
SD_DQ8
SD_DQ7
G8 G9 F7 F3 G1 G2 G3 H1 H2 J3 G7 H9 H3 J7 H8 R8 N7 R9 N8 P9 M8 M7
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 BA0 BA1 DQ00 DQ01 DQ02 DQ03 DQ04 DQ05 DQ06
R1604 0
SD_A00 SD_A01 SD_A02 SD_A03 SD_A04 SD_A05 SD_A06 SD_A07 SD_A08 SD_A09 SD_A10 SD_A11 SD_A12 SD_BA0 SD_BA1 SD_DQ00 SD_DQ01 SD_DQ02 SD_DQ03 SD_DQ04 SD_DQ05 SD_DQ06
C1608 0.1u
C1609 0.1u
C1610 0.1u
C1611 0.1u
IC1602
FMS8B16LBH-60AER
256M SDRAM
SD_DQ15_IC_1801
SD_DQ00_IC_1801
SD_DQ14_IC_1801
SD_DQ13_IC_1801
SD_DQ02_IC_1801
SD_DQ01_IC_1801
SD_DQ12_IC_1801
SD_DQ11_IC_1801
SD_DQ04_IC_1801
SD_DQ03_IC_1801
SD_DQ10_IC_1801
SD_DQ09_IC_1801
SD_DQ06_IC_1801
SD_DQ05_IC_1801
SD_DQ08_IC_1801
A1 A2 A3 A7 A8 A9 B1 B2 B3 B7 B8 B9 C1 C2 C3 C7 C8 C9 D1 D2 D3 D7 D8 D9 E1 E2 E3
J9 J8 J7 J3 J2 J1 H9 H8 H7 H3 H2 H1 G9 G8 G7 G3 G2 G1 F9 F8 F7 F3 F2 F1 E9 E8 E7
SD_A02_IC_1801
SD_A03_IC_1801
SD_A04_IC_1801
SD_A05_IC_1801
SD_A10_IC_1801
SD_A01_IC_1801
SD_A00_IC_1801
SD_A06_IC_1801
SD_A07_IC_1801
SD_A08_IC_1801
SD_XCS_IC_1801
SD_BA1_IC_1801
SD_BA0_IC_1801
SD_A09_IC_1801
SD_A11_IC_1801
SD_A12_IC_1801
SD_XWE_IC_1801
SD_XRAS_IC_1801
SD_XCAS_IC_1801
SD_CK_IC_1801
SD_DQ07_IC_1801
R1606 XX
R1608 XX
R1610 XX
R1607 XX
R1609 XX
R1611 XX
VC-597 BOARD(4/24)
SDRAM
XX MARK:NO MOUNT

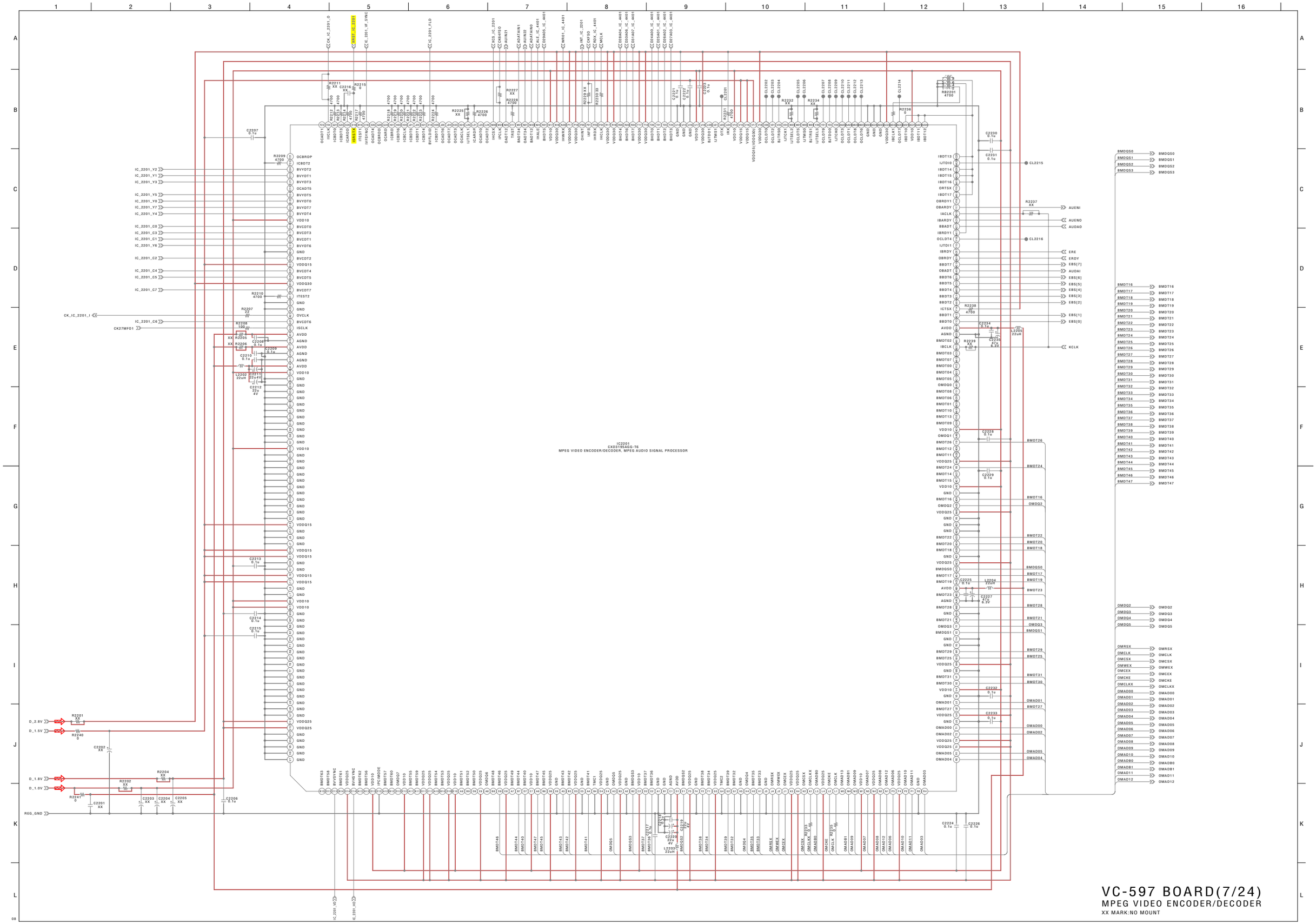

IC1801
S4DF006X02-Y071-K12K4C
BASE BAND SIGNAL PROCESSOR, DOWN CONVERTER, D/A CONVERTER
VC-597 BOARD(5/24)
BASE BAND SIGNAL PROCESS
XX MARK:NO MOUNT

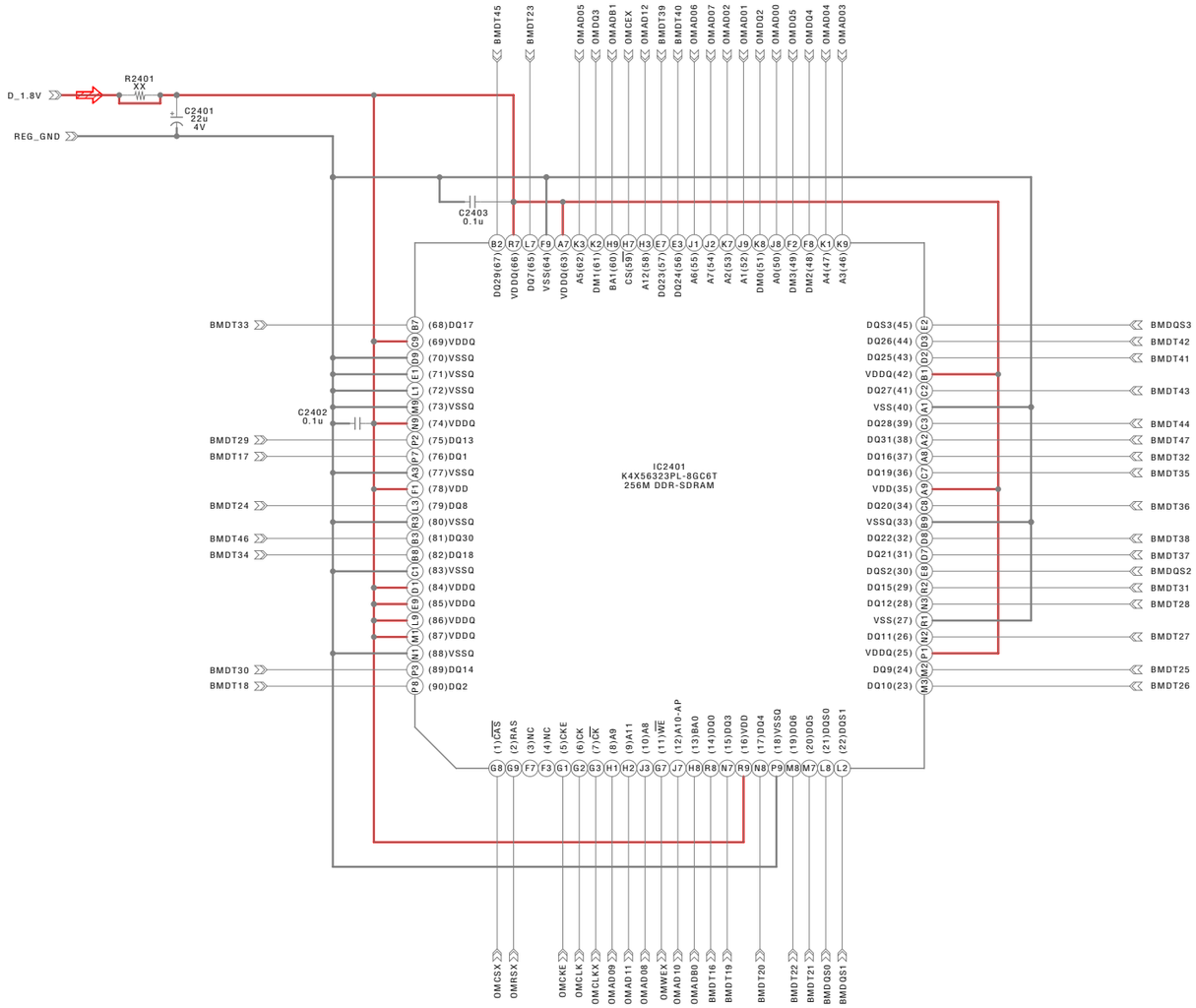


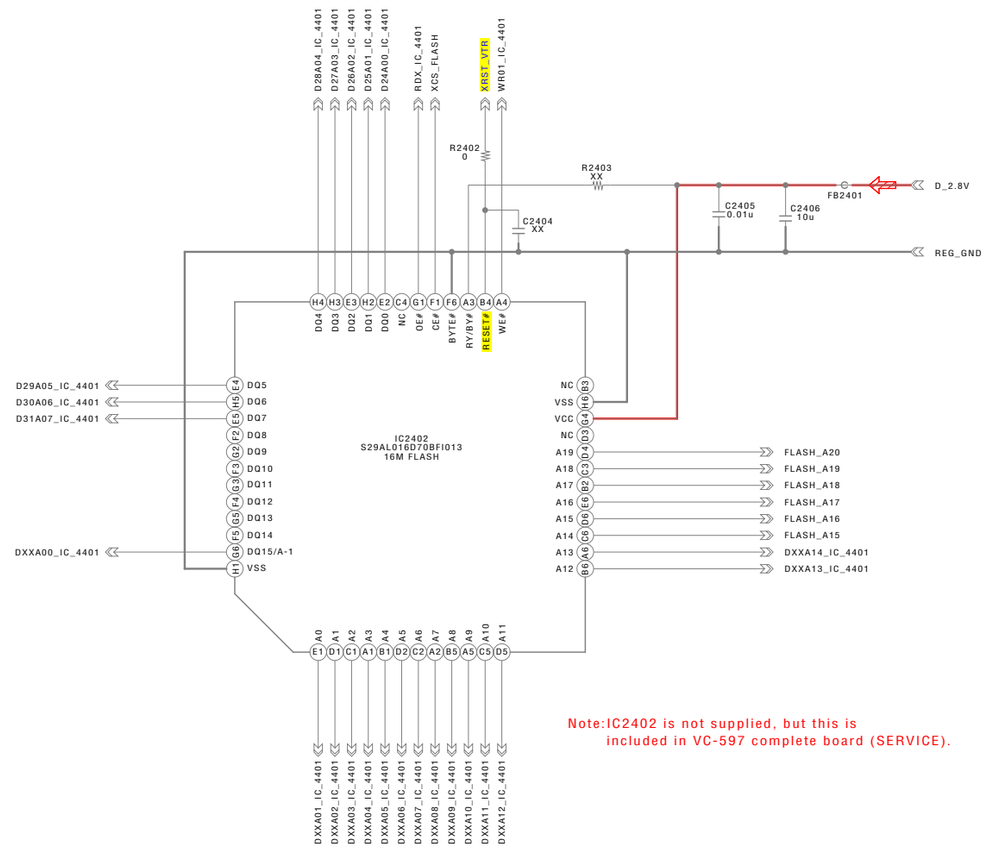
VC-597 BOARD(6/24)

COMPONENT OUT AMP, VIDEO OUT AMP

XX MARK:NO MOUNT


IC2201
CXD3195AGG-T6
MPEG VIDEO ENCODER/DECODER, MPEG AUDIO SIGNAL PROCESSOR
VC-597 BOARD(7/24)
MPEG VIDEO ENCODER/DECODER
XX MARK:NO MOUNT



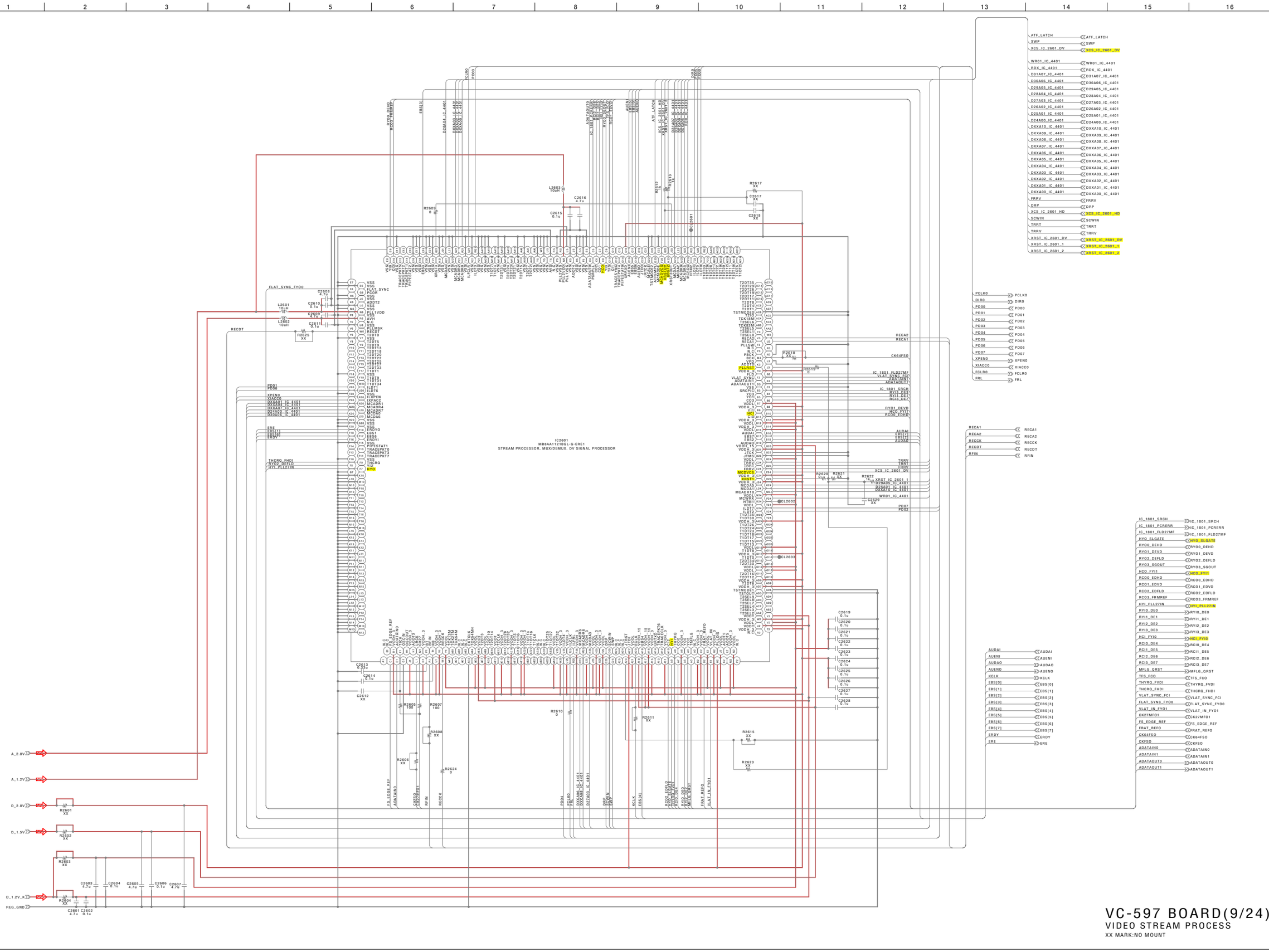


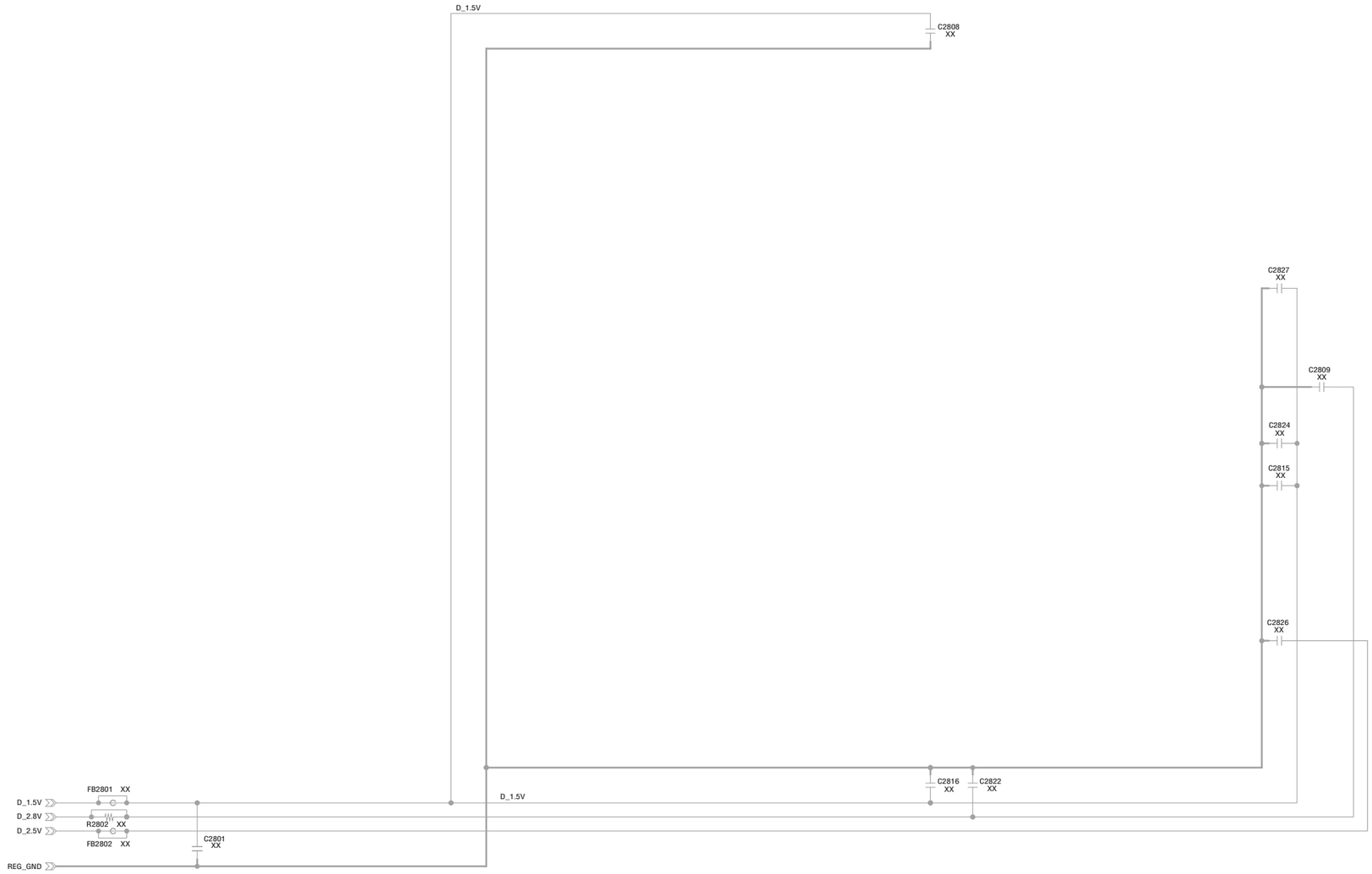
Note:IC2402 is not supplied, but this is included in VC-597 complete board (SERVICE).

VC-597 BOARD(8/24)

SDRAM, FLASH

XX MARK:NO MOUNT

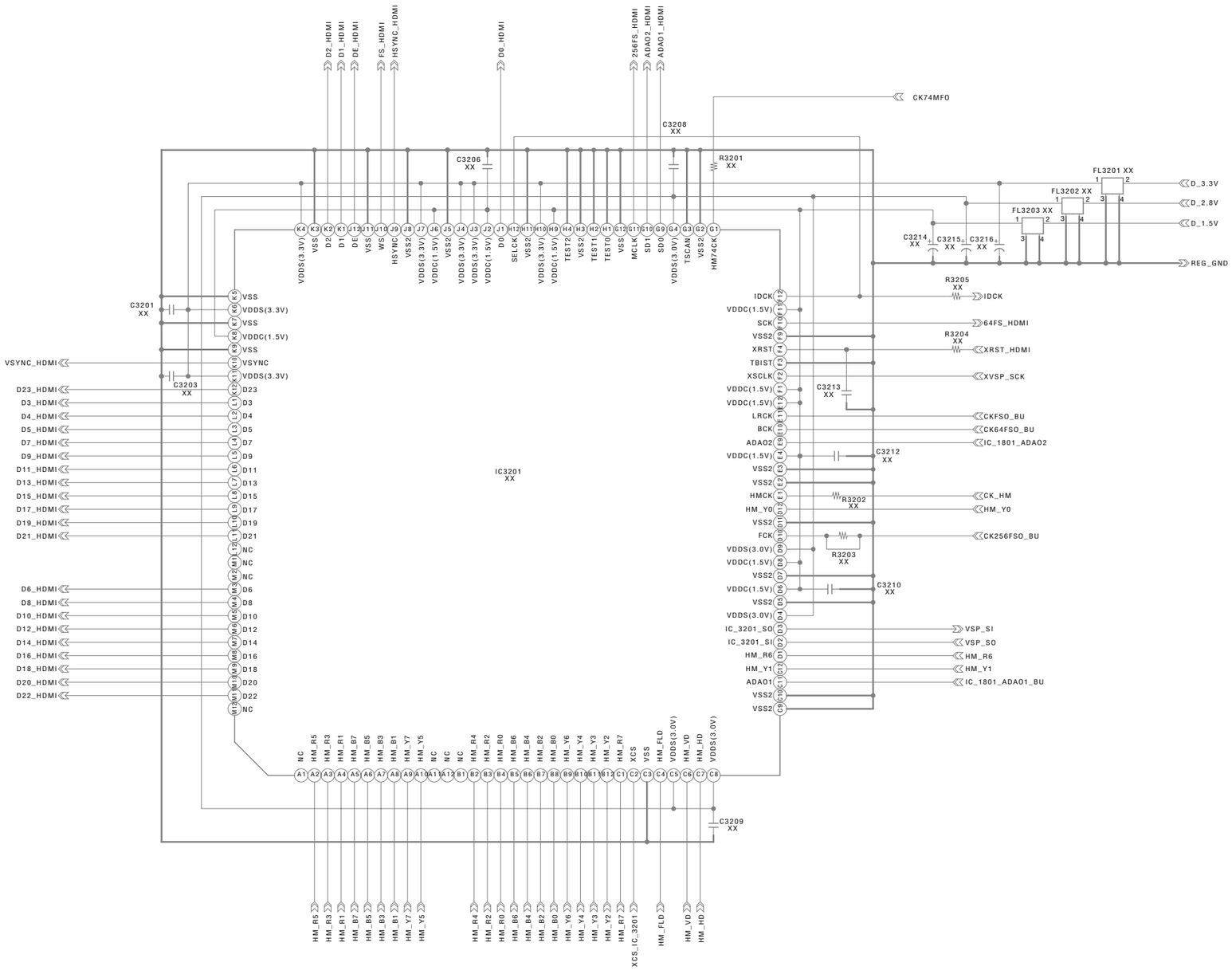

IC2601
MB86A11218GL-G-ERE1
STREAM PROCESSOR, MUX/DEMUX, DV SIGNAL PROCESSOR
VC-597 BOARD(9/24)
VIDEO STREAM PROCESS
XX MARK:NO MOUNT



VC-597 BOARD(10/24)

NOT USED

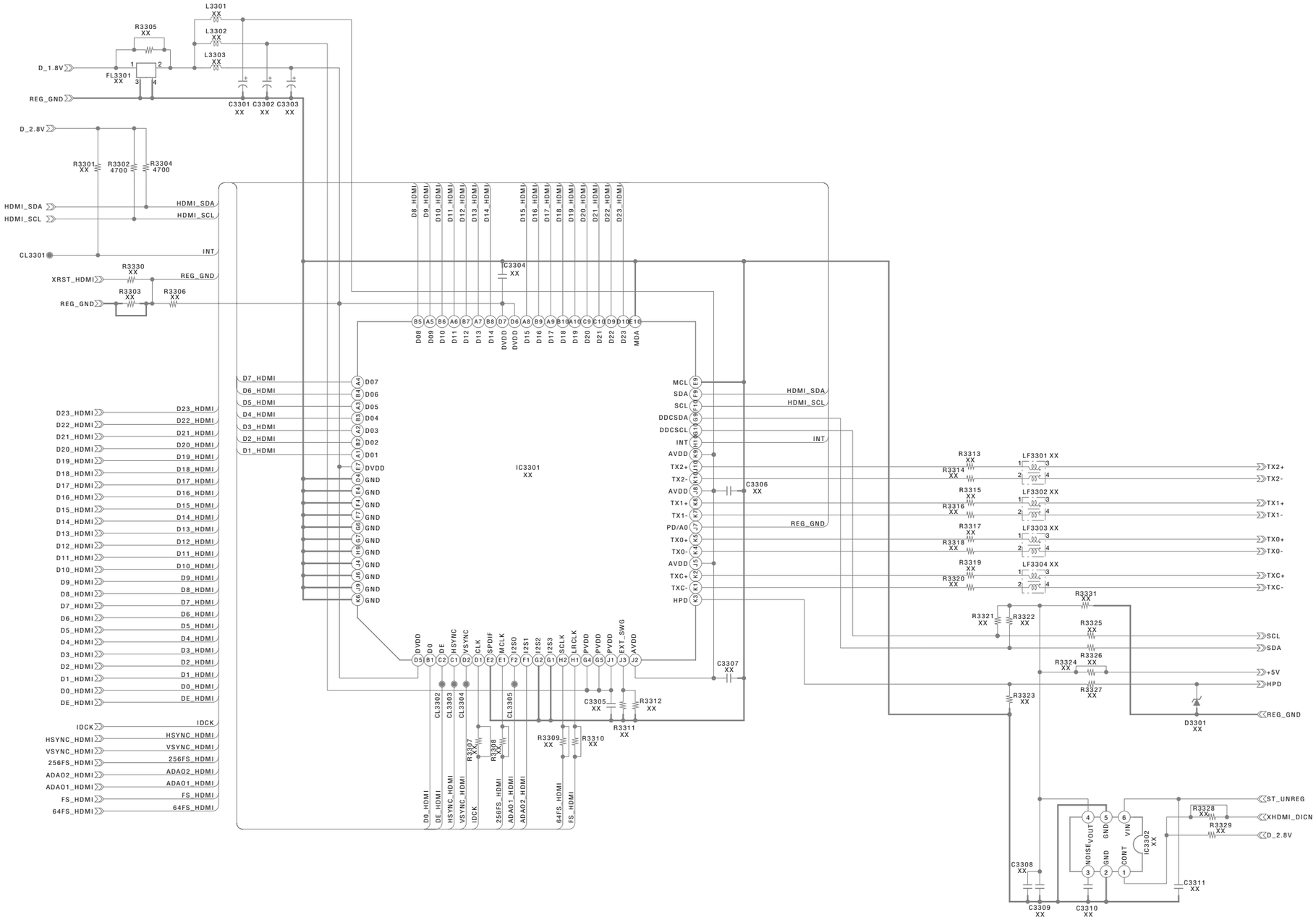
XX MARK:NO MOUNT



VC-597 BOARD(11/24)

HDMI SIGNAL PROCESS (NOT USED)

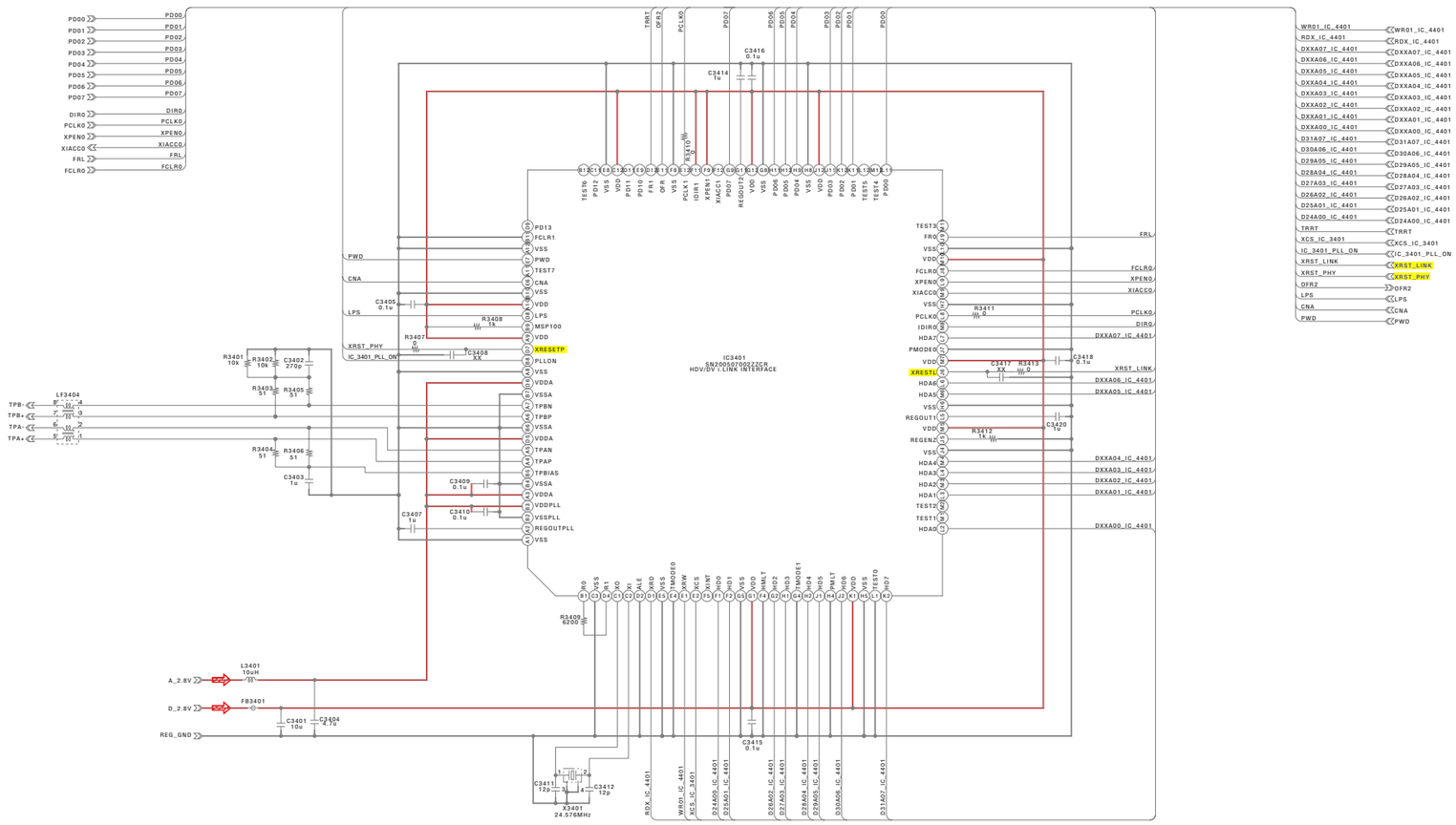
XX MARK:NO MOUNT



VC-597 BOARD(12/24)

HDMI TRANSMITTER (NOT USED)

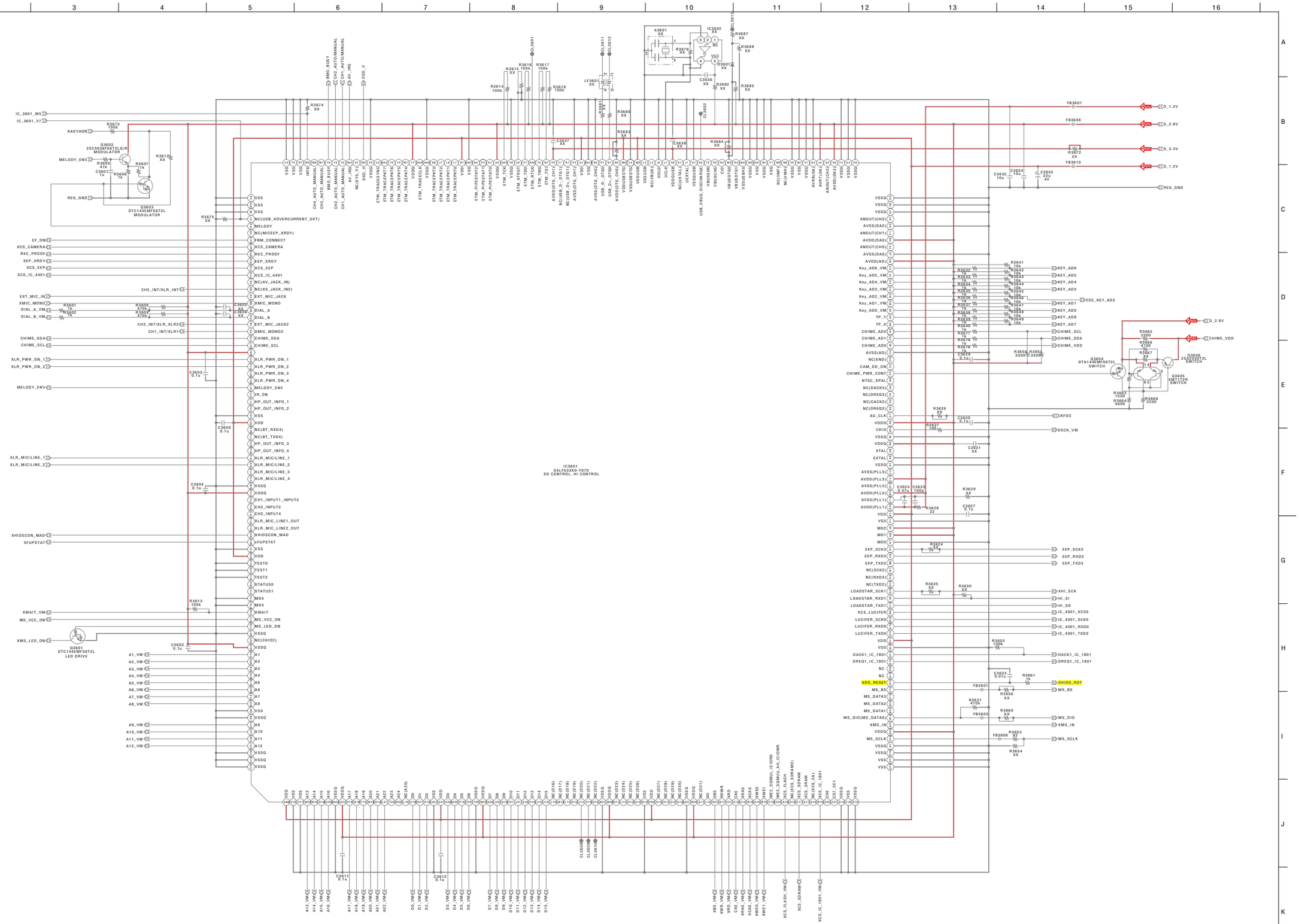
XX MARK:NO MOUNT

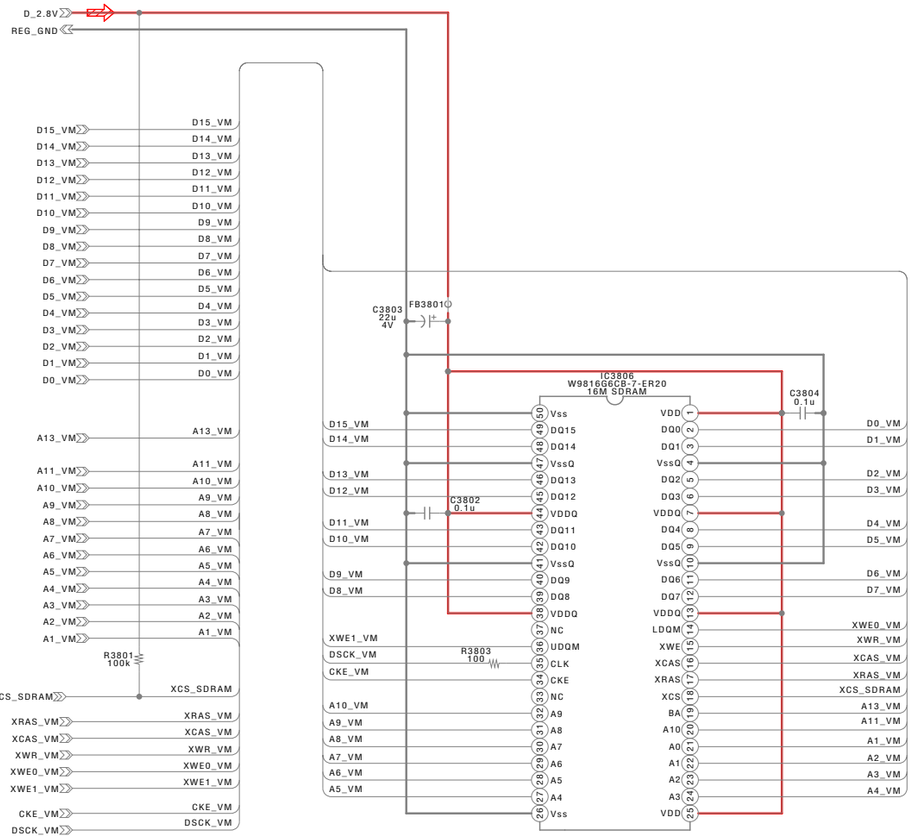


VC-597 BOARD(13/24)

DV i.LINK INTERFACE

XX MARK:NO MOUNT

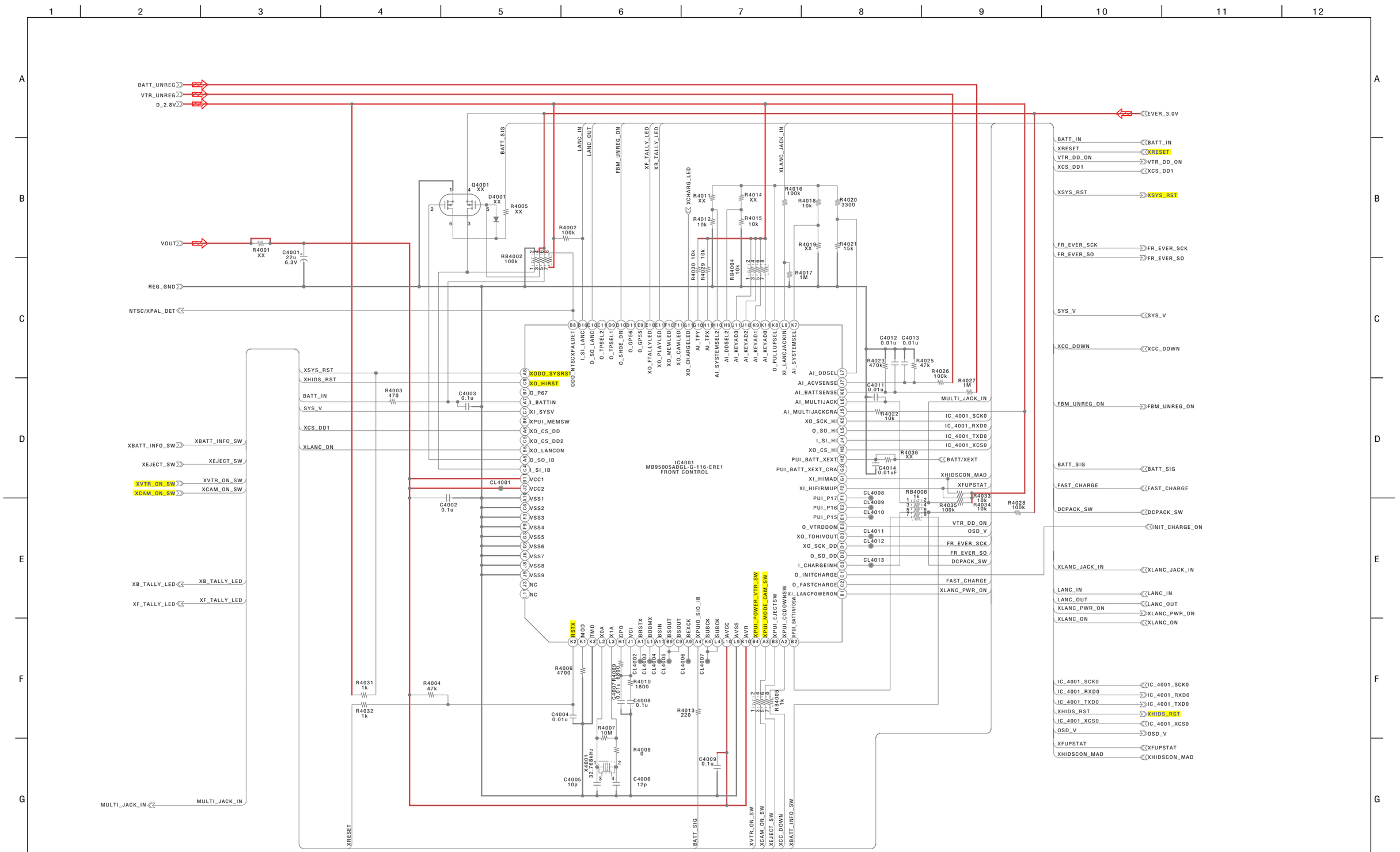

IC3601
54LFS33X0-Y070
DS CONTROL, HI CONTROL
VC-597 BOARD(14/24)
DS CONTROL, HI CONTROL
XX MARK:NO MOUNT



VC-597 BOARD(15/24)

SDRAM, FLASH, EEPROM

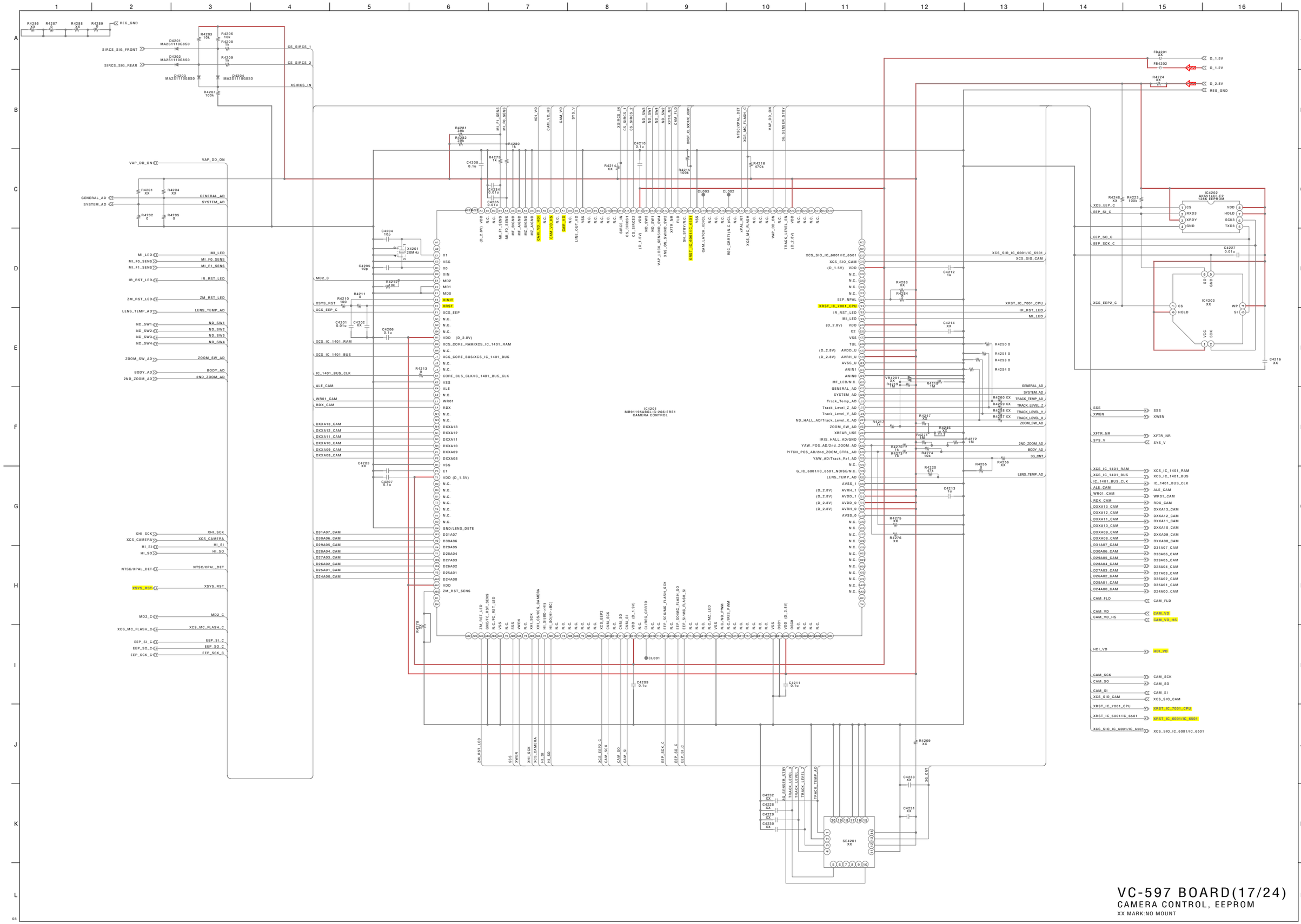
XX MARK:NO MOUNT

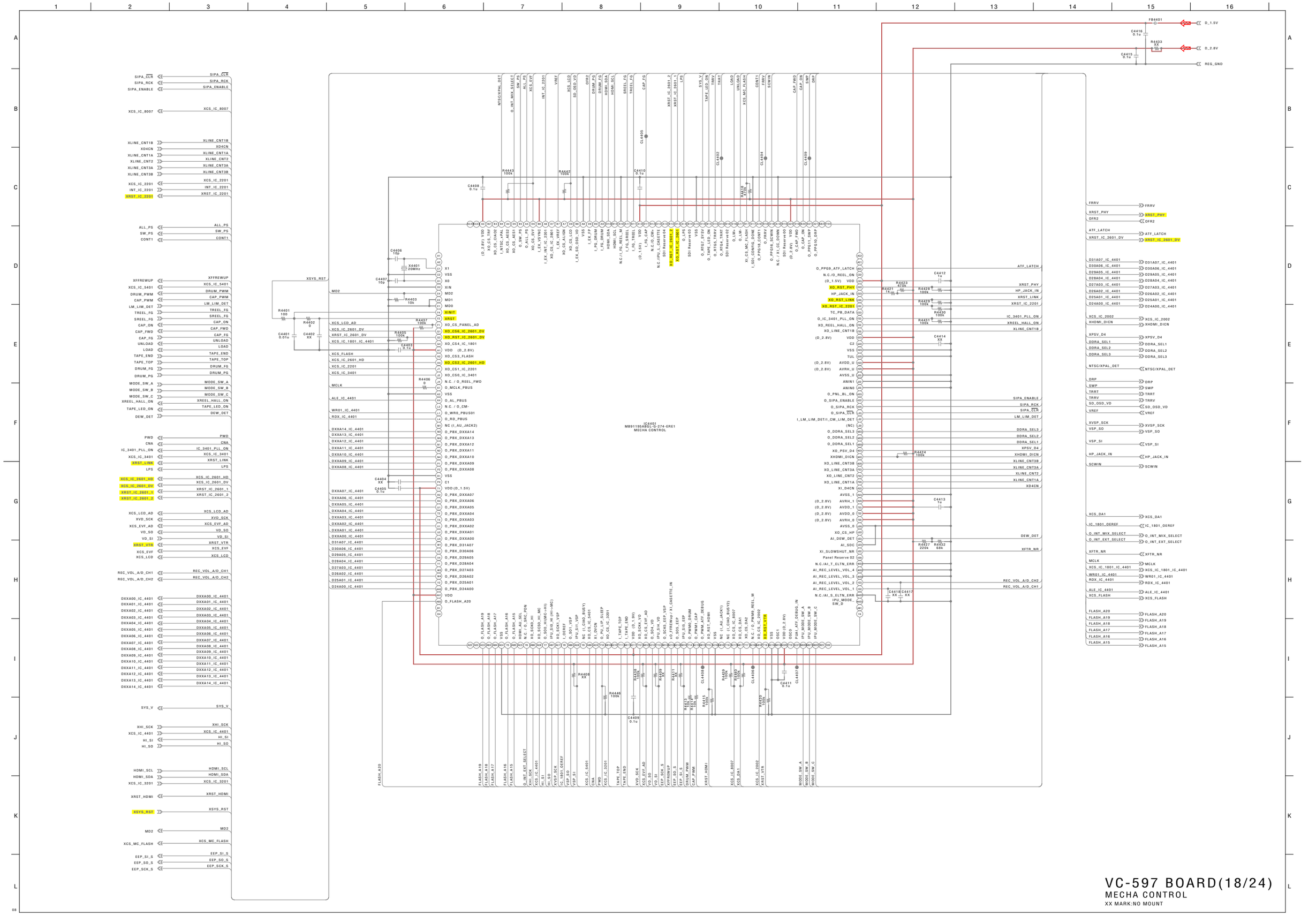


VC-597 BOARD(16/24)

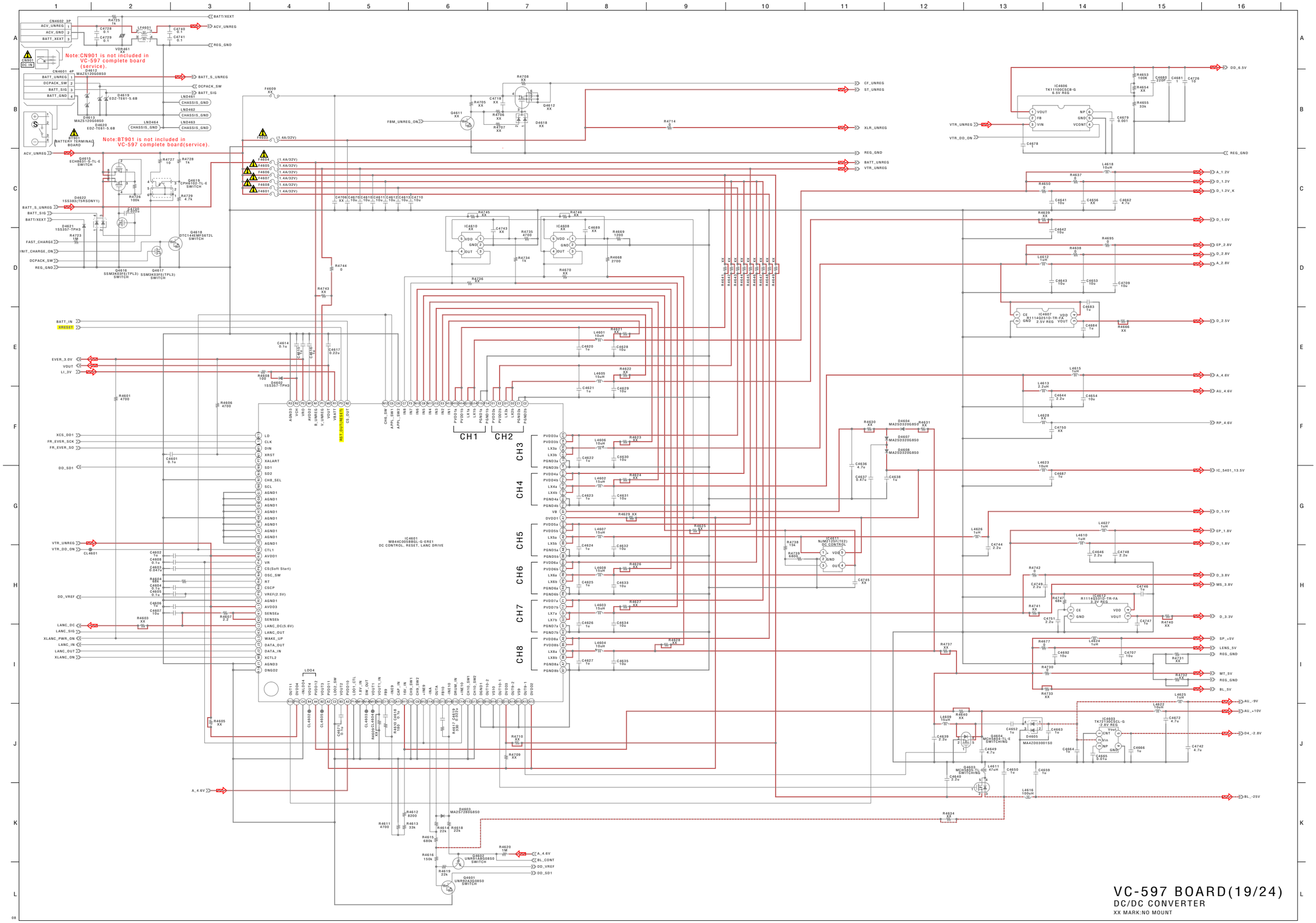
FRONT CONTROL

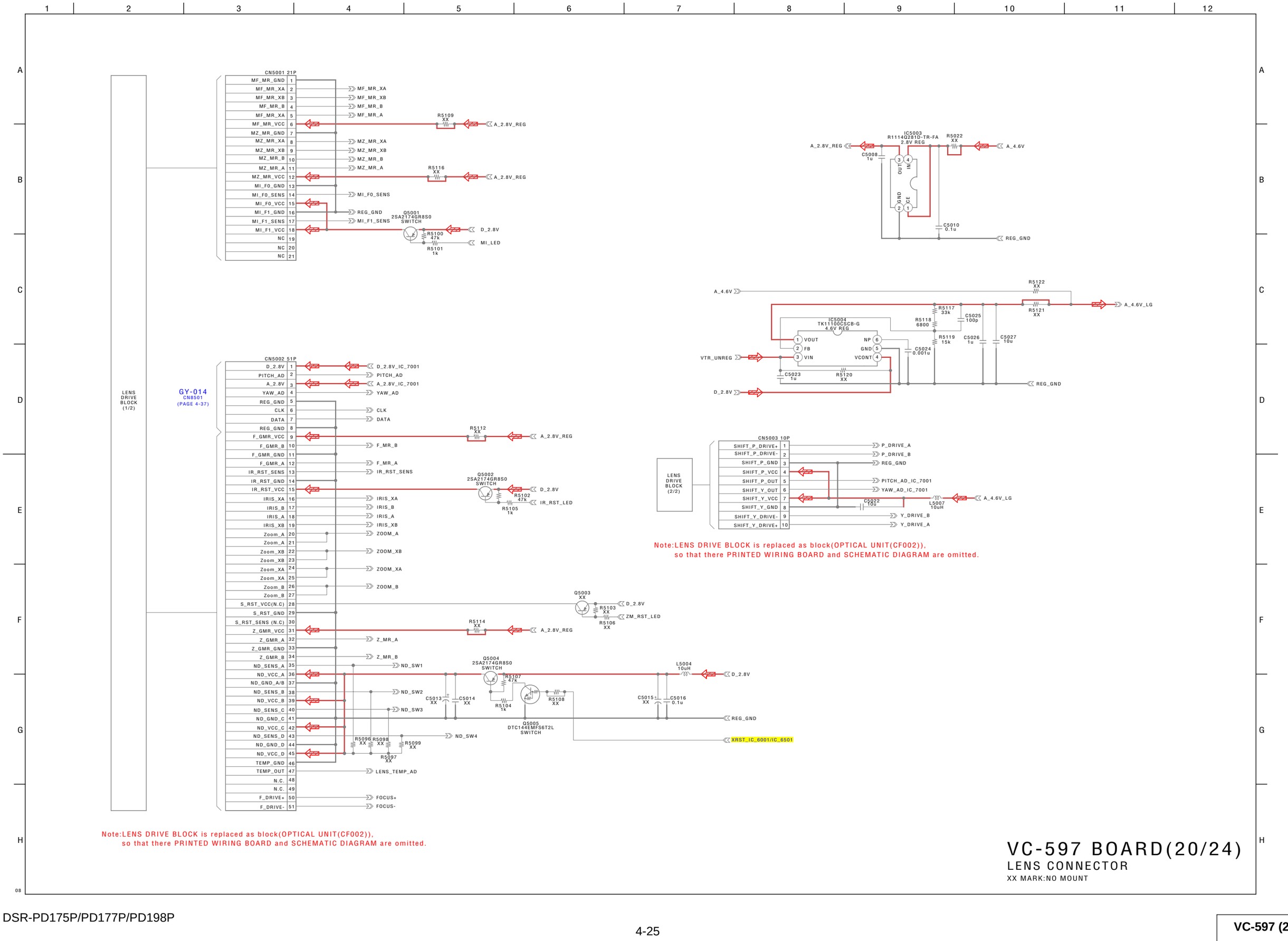
XX MARK:NO MOUNT

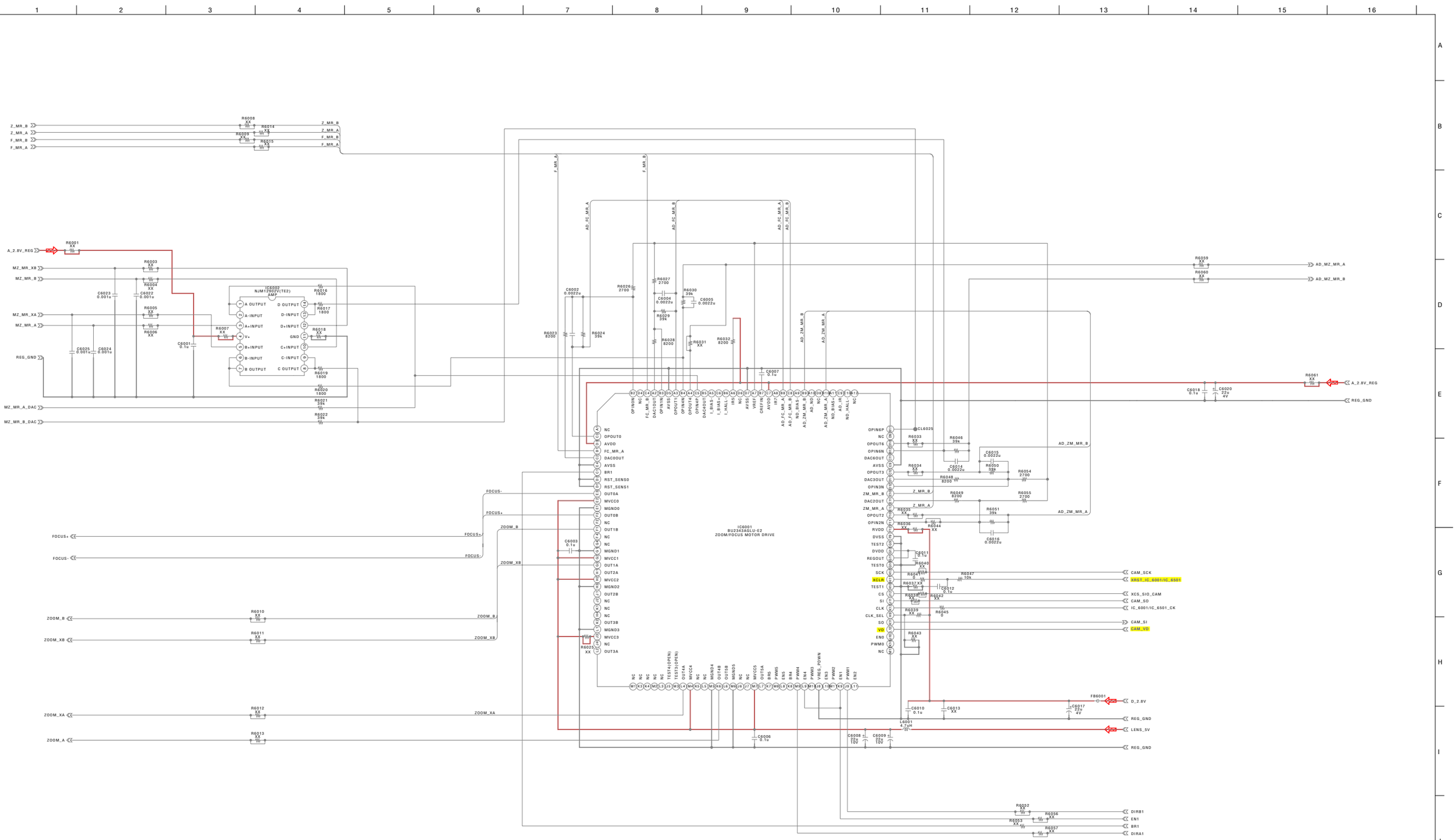

IC4201
MB9195ABGL-G-266-ERE1
CAMERA CONTROL
IC4202
AK6514CF-E2
128K EEPROM
IC4203
VC-597 BOARD(17/24)
CAMERA CONTROL, EEPROM
XX MARK:NO MOUNT


IC4401
MB91195AGEL-G-274-ERE1
MECHA CONTROL
VC-597 BOARD(18/24)
MECHA CONTROL
XX MARK:NO MOUNT

• Refer to page 4-3 for mark ⚠.



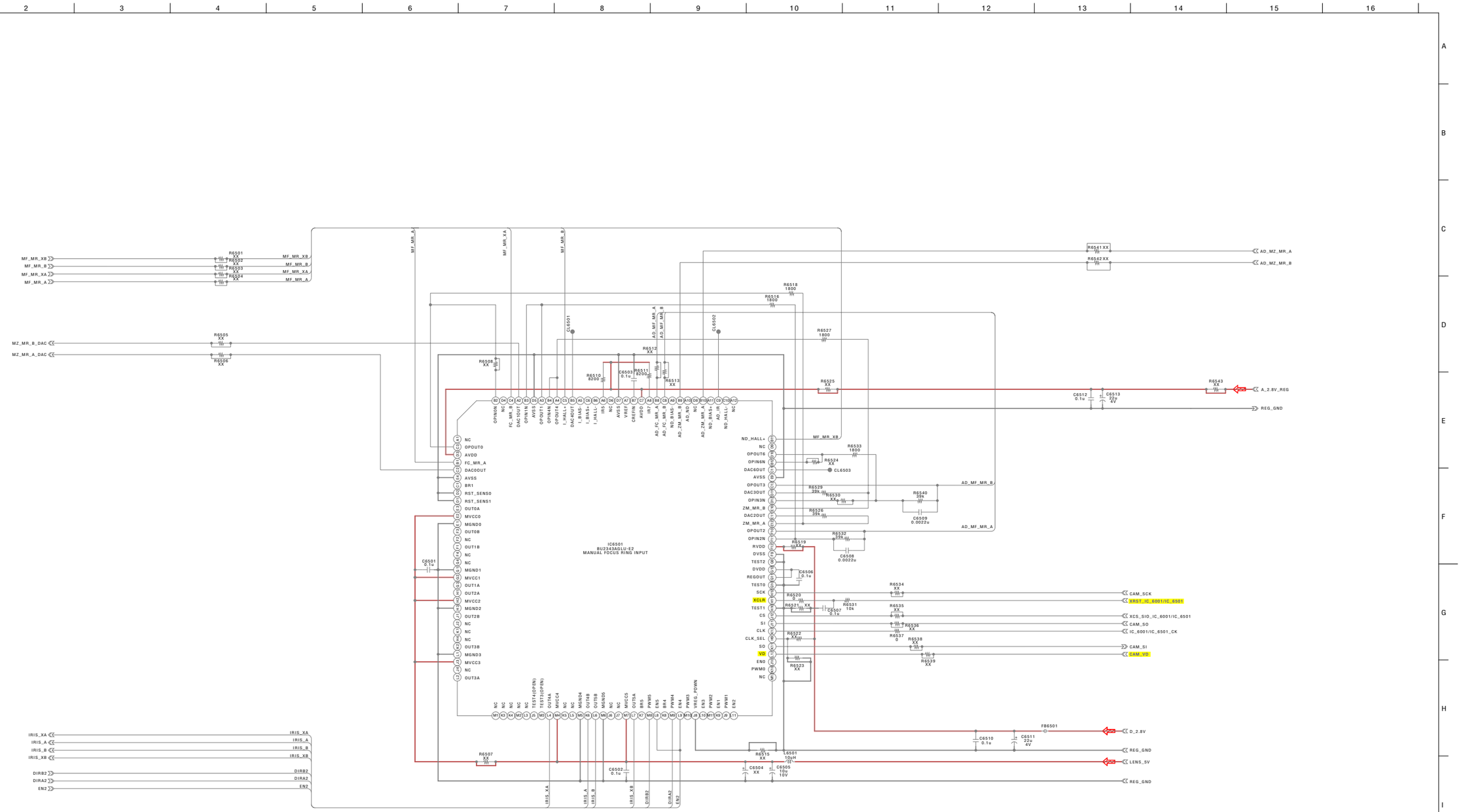

LENS DRIVE BLOCK (1/2)
GY-014
CN8501
(PAGE 4-37)
CN5001 21P
MF_MR_GND 1
MF_MR_XA 2
MF_MR_XB 3
MF_MR_B 4
MF_MR_A 5
MF_MR_VCC 6
MZ_MR_GND 7
MZ_MR_XA 8
MZ_MR_XB 9
MZ_MR_B 10
MZ_MR_A 11
MZ_MR_VCC 12
MI_F0_GND 13
MI_F0_SENS 14
MI_F0_VCC 15
MI_F1_GND 16
MI_F1_SENS 17
MI_F1_VCC 18
NC 19
NC 20
NC 21
R5109 XX
R5116 XX
Q5001 2SA2174GR8S0 SWITCH
R5100 47k
R5101 1k
D_2.8V
MI_LED
CN5002 51P
D_2.8V 1
PITCH_AD 2
A_2.8V 3
YAW_AD 4
REG_GND 5
CLK 6
DATA 7
REG_GND 8
F_GMR_VCC 9
F_GMR_B 10
F_GMR_GND 11
F_GMR_A 12
IR_RST_SENS 13
IR_RST_GND 14
IR_RST_VCC 15
IRIS_XA 16
IRIS_B 17
IRIS_A 18
IRIS_XB 19
Zoom_A 20
Zoom_A 21
Zoom_XB 22
Zoom_XB 23
Zoom_XA 24
Zoom_XA 25
Zoom_B 26
Zoom_B 27
S_RST_VCC(N.C) 28
S_RST_GND 29
S_RST_SENS (N.C) 30
Z_GMR_VCC 31
Z_GMR_A 32
Z_GMR_GND 33
Z_GMR_B 34
ND_SENS_A 35
ND_VCC_A 36
ND_GND_A/B 37
ND_SENS_B 38
ND_VCC_B 39
ND_SENS_C 40
ND_GND_C 41
ND_VCC_C 42
ND_SENS_D 43
ND_GND_D 44
ND_VCC_D 45
TEMP_GND 46
TEMP_OUT 47
N.C. 48
N.C. 49
F_DRIVE+ 50
F_DRIVE- 51
R5112 XX
Q5002 2SA2174GR8S0 SWITCH
R5102 47k
R5105 1k
R5114 XX
Q5003 XX
R5103 XX
R5106 XX
Q5004 2SA2174GR8S0 SWITCH
R5107 47k
R5104 1k
Q5005 DTC144EMFS6T2L SWITCH
R5108 XX
C5013 XX
C5014 XX
C5015 XX
C5016 0.1u
R5096 XX
R5098 XX
R5099 XX
R5097 XX
MF_MR_XA
MF_MR_XB
MF_MR_B
MF_MR_A
A_2.8V_REG
MZ_MR_XA
MZ_MR_XB
MZ_MR_B
MZ_MR_A
MI_F0_SENS
REG_GND
MI_F1_SENS
D_2.8V_IC_7001
PITCH_AD
A_2.8V_IC_7001
YAW_AD
CLK
DATA
F_MR_B
F_MR_A
IR_RST_SENS
IR_RST_LED
IRIS_XA
IRIS_B
IRIS_A
IRIS_XB
ZOOM_A
ZOOM_XB
ZOOM_XA
ZOOM_B
D_2.8V
ZM_RST_LED
Z_MR_A
Z_MR_B
ND_SW1
ND_SW2
ND_SW3
ND_SW4
LENS_TEMP_AD
FOCUS+
FOCUS-
Note:LENS DRIVE BLOCK is replaced as block(OPTICAL UNIT(CF002)),
so that there PRINTED WIRING BOARD and SCHEMATIC DIAGRAM are omitted.
IC5003 R1114Q281D-TR-FA 2.8V REG
A_2.8V_REG
C5008 1u
R5022 XX
A_4.6V
OUT
IN
GND
CE
C5010 0.1u
REG_GND
A_4.6V
R5122 XX
R5121 XX
A_4.6V_LG
IC5004 TK11100CSCB-G 4.6V REG
R5117 33k
R5118 6800
C5025 100p
R5119 15k
C5026 1u
C5027 10u
VOUT
FB
VIN
NP
GND
VCONT
C5024 0.001u
VTR_UNREG
C5023 1u
R5120 XX
D_2.8V
REG_GND
CN5003 10P
SHIFT_P_DRIVE+ 1
SHIFT_P_DRIVE- 2
SHIFT_P_GND 3
SHIFT_P_VCC 4
SHIFT_P_OUT 5
SHIFT_Y_OUT 6
SHIFT_Y_VCC 7
SHIFT_Y_GND 8
SHIFT_Y_DRIVE- 9
SHIFT_Y_DRIVE+ 10
LENS DRIVE BLOCK (2/2)
P_DRIVE_A
P_DRIVE_B
REG_GND
PITCH_AD_IC_7001
YAW_AD_IC_7001
A_4.6V_LG
C5022 10u
L5007 10uH
Y_DRIVE_B
Y_DRIVE_A
Note:LENS DRIVE BLOCK is replaced as block(OPTICAL UNIT(CF002)),
so that there PRINTED WIRING BOARD and SCHEMATIC DIAGRAM are omitted.
L5004 10uH
D_2.8V
REG_GND
XRST_IC_6001/IC_6501
VC-597 BOARD(20/24)
LENS CONNECTOR
XX MARK:NO MOUNT



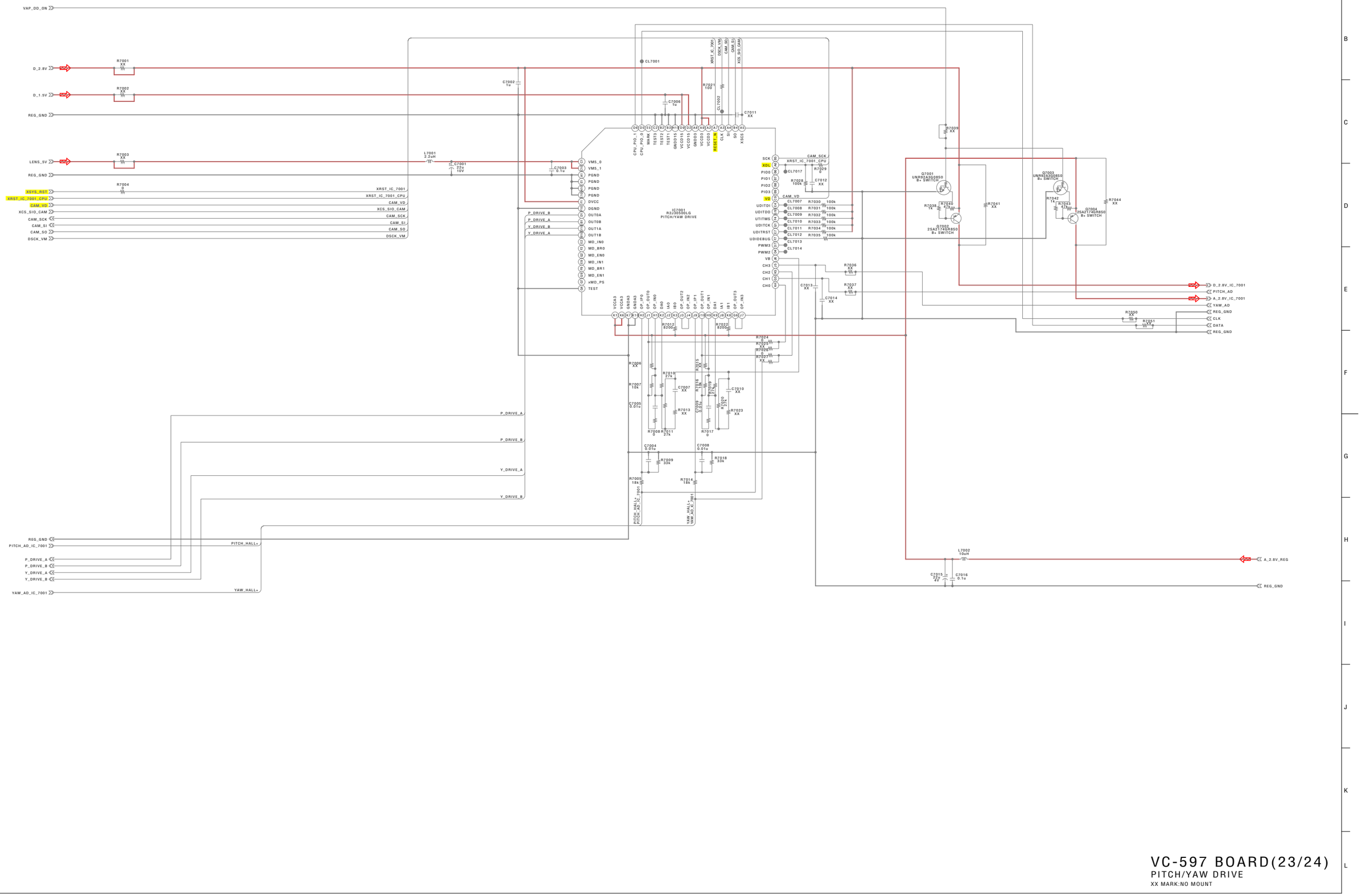
VC-597 BOARD(21/24)

ZOOM/FOCUS MOTOR DRIVE

XX MARK:NO MOUNT



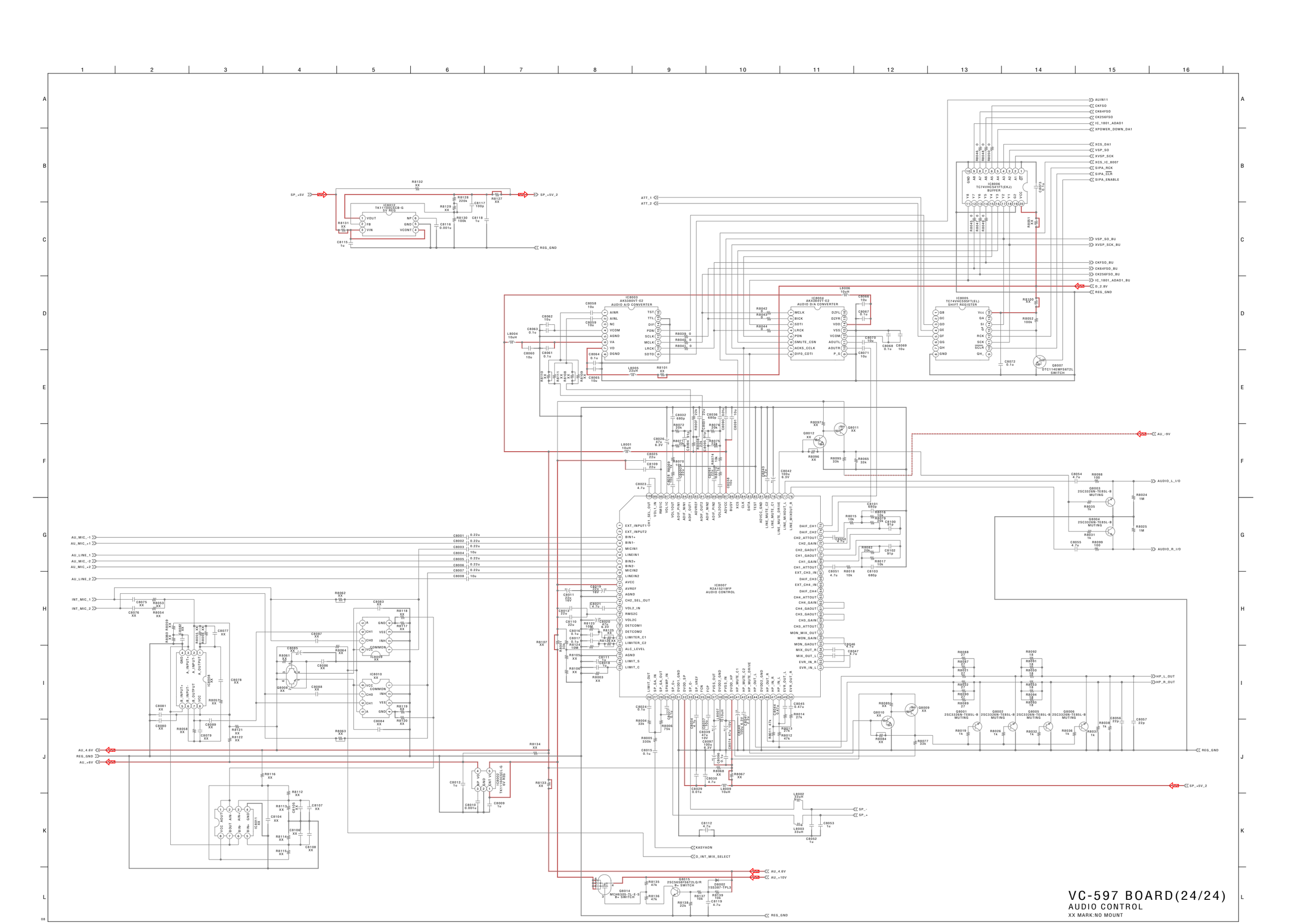
VC-597 BOARD(22/24)
LENS DRIVE
XX MARK:NO MOUNT



VC-597 BOARD(23/24)

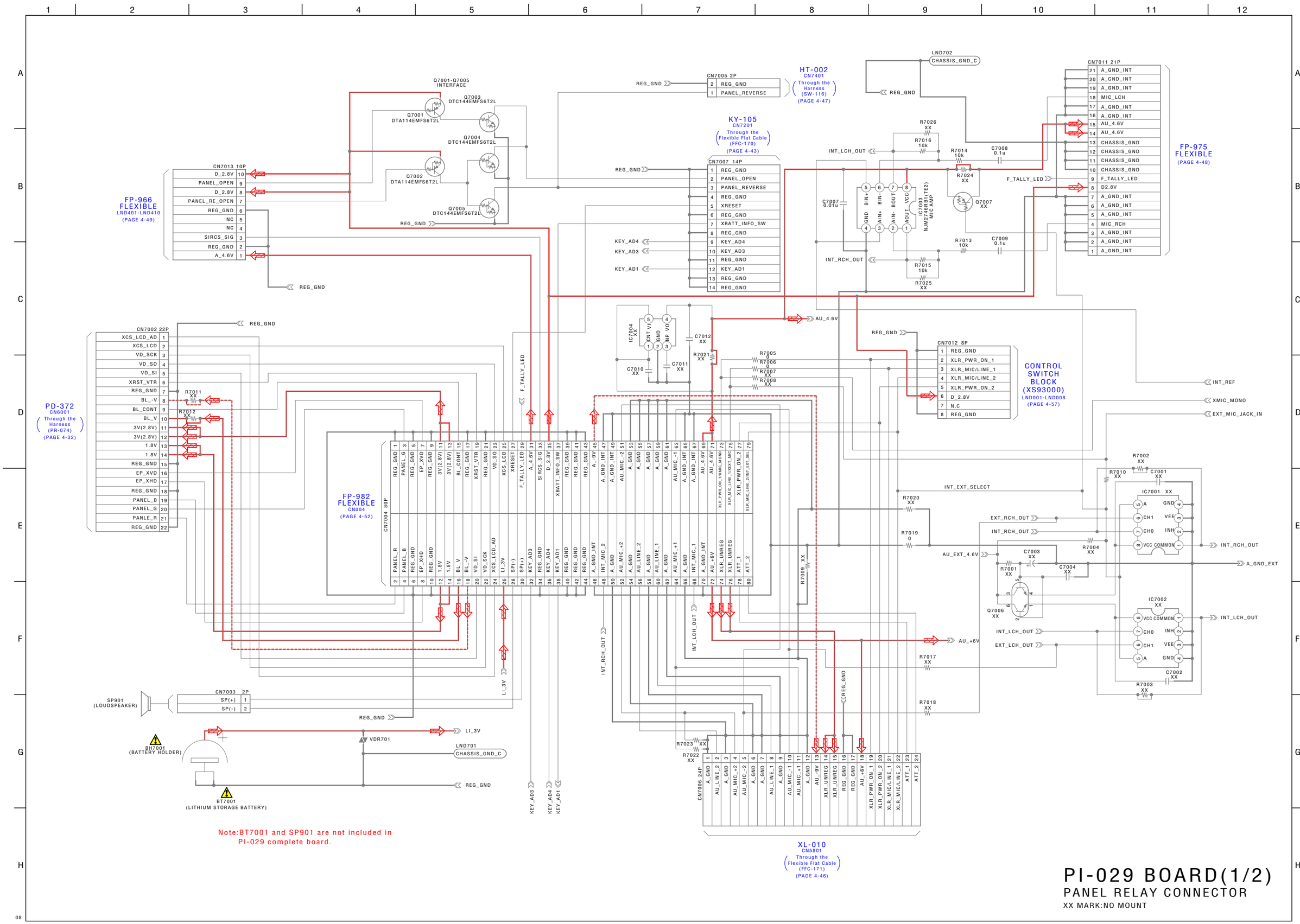
PITCH/YAW DRIVE

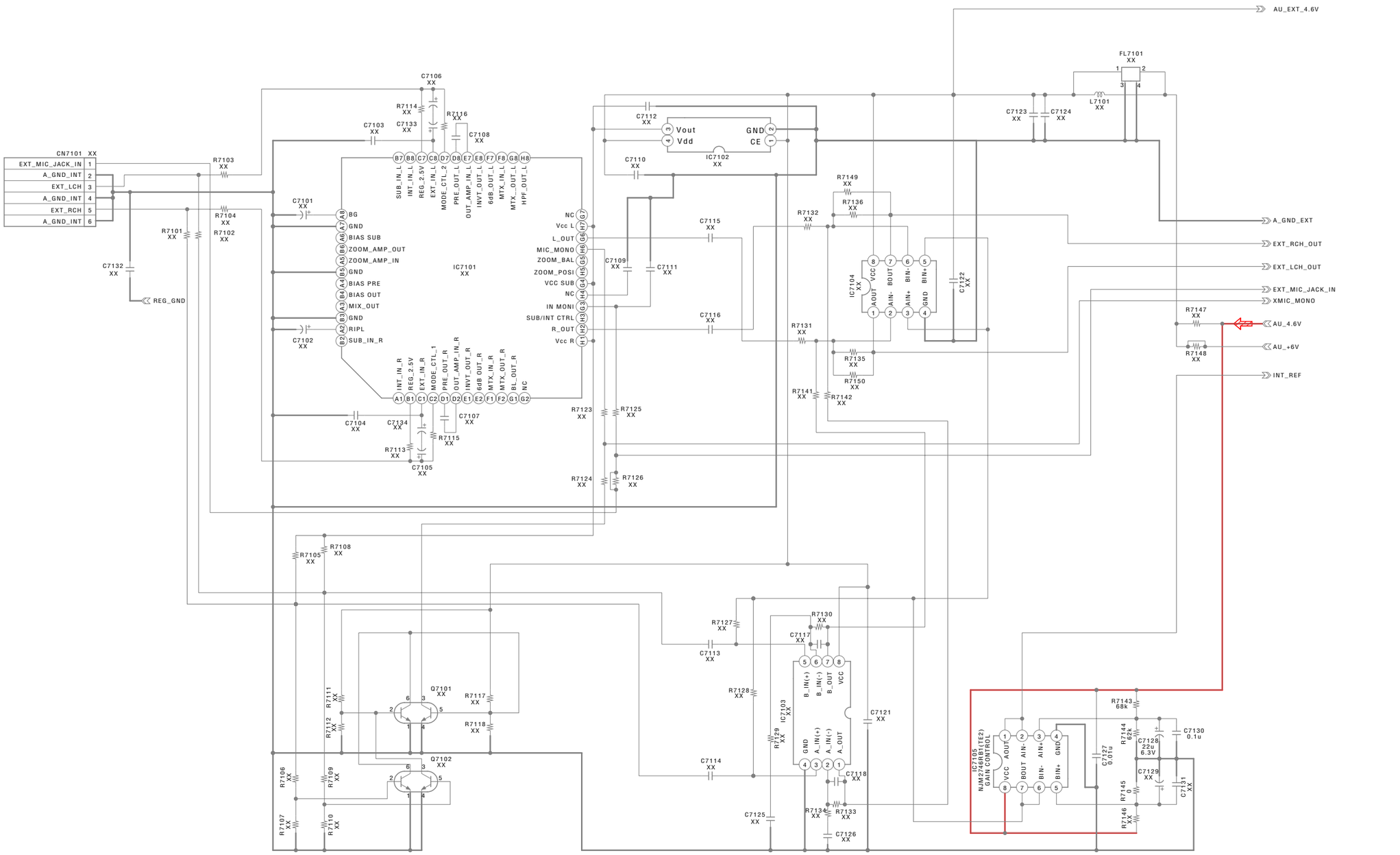
XX MARK:NO MOUNT



VC-597 BOARD(24/24)
AUDIO CONTROL
XX MARK:NO MOUNT

• Refer to page 4-3 for mark ⚠.

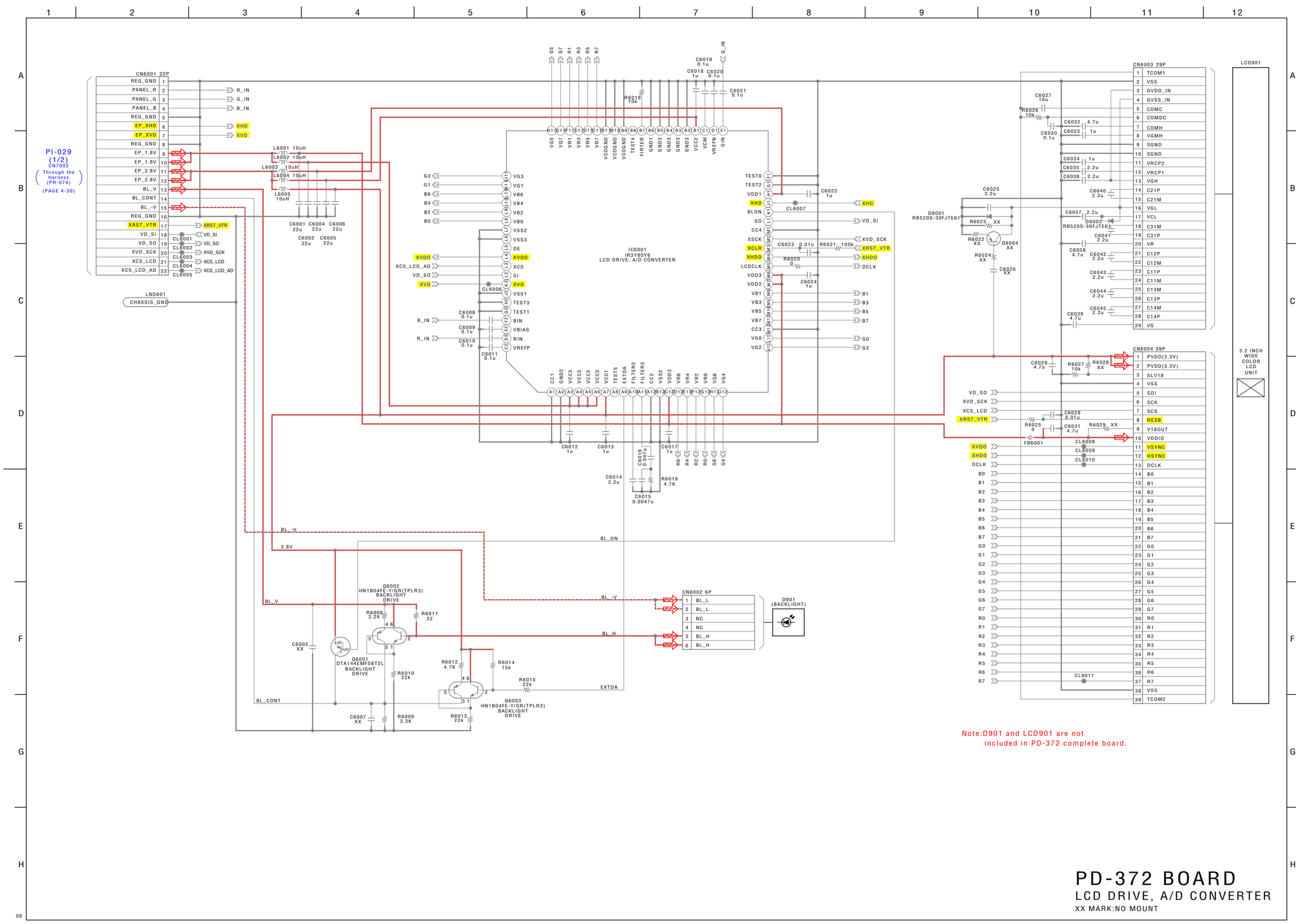




PI-029 BOARD(2/2)

EXT MIC AMP

XX MARK:NO MOUNT

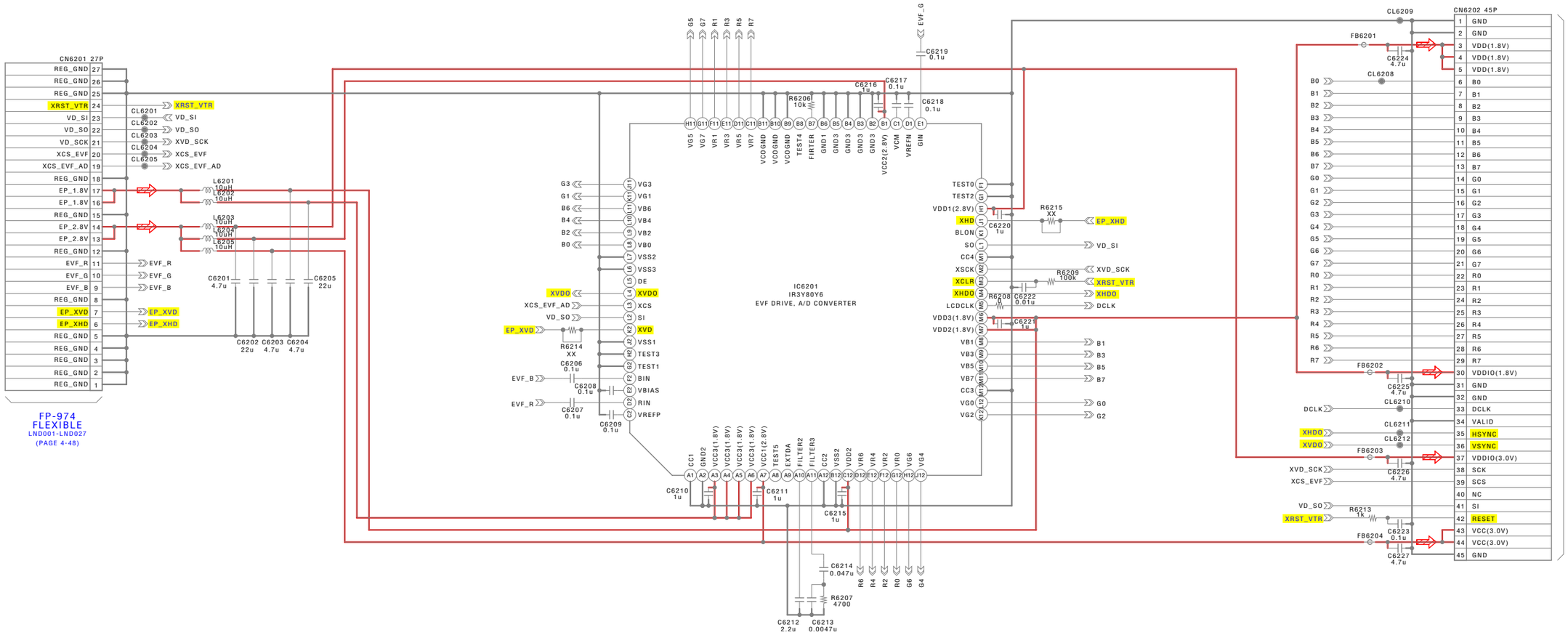


Note:D901 and LCD901 are not included in PD-372 complete board.

PD-372 BOARD

LCD DRIVE, A/D CONVERTER

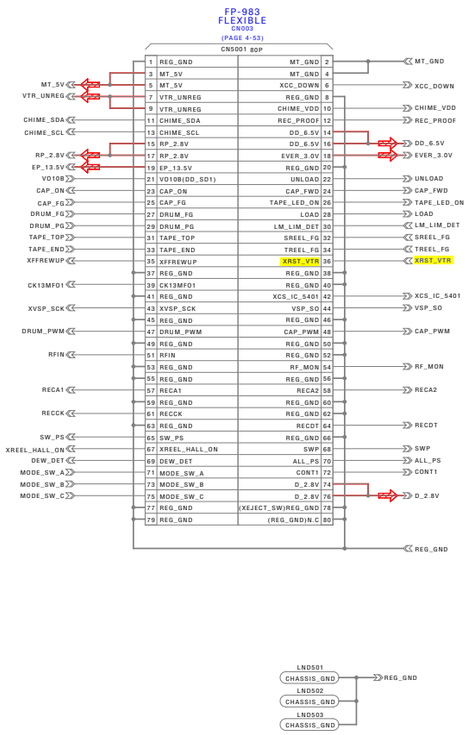
XX MARK:NO MOUNT

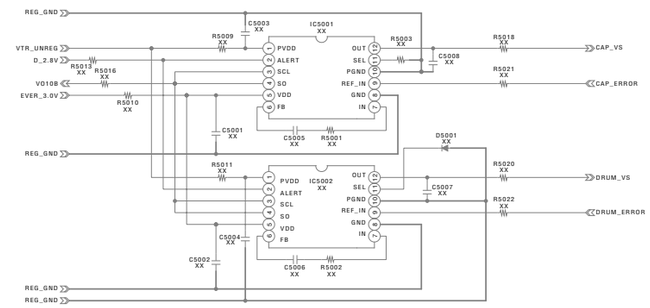


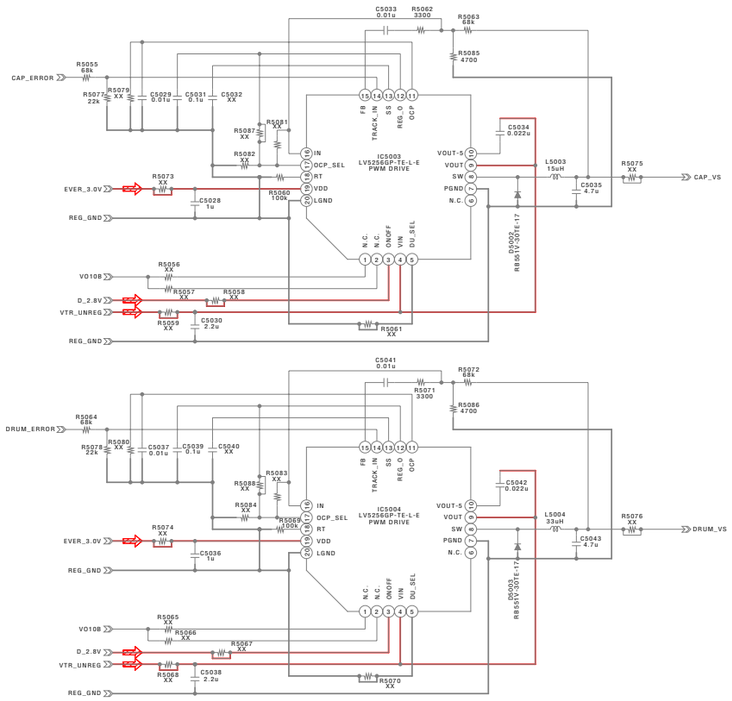
VF-178 BOARD

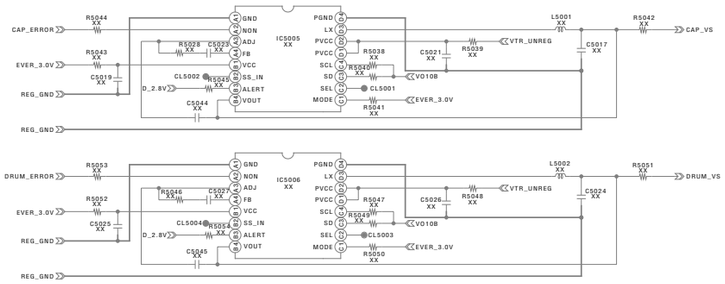
EVF DRIVE, A/D CONVERTER

XX MARK:NO MOUNT





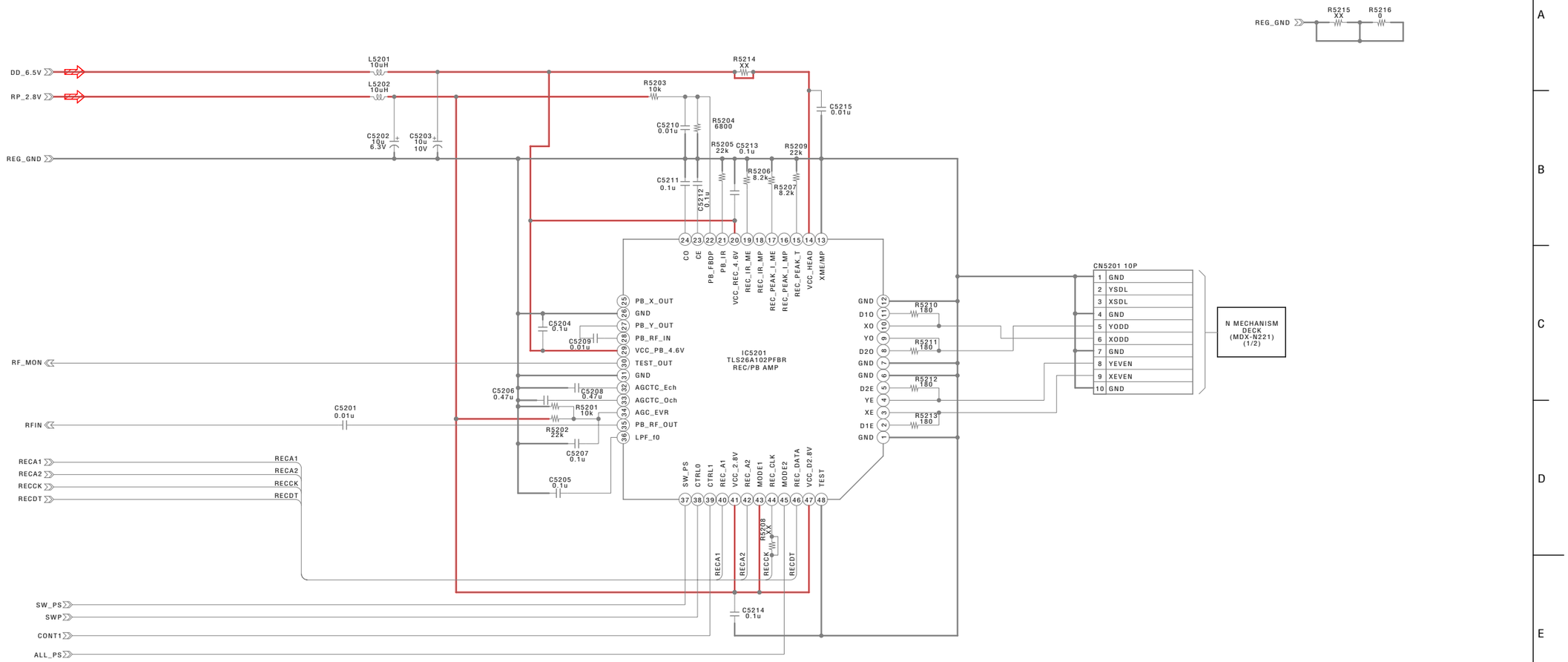




MD-141 BOARD(1/3)

CAPSTAN/DRUM MOTOR DRIVE

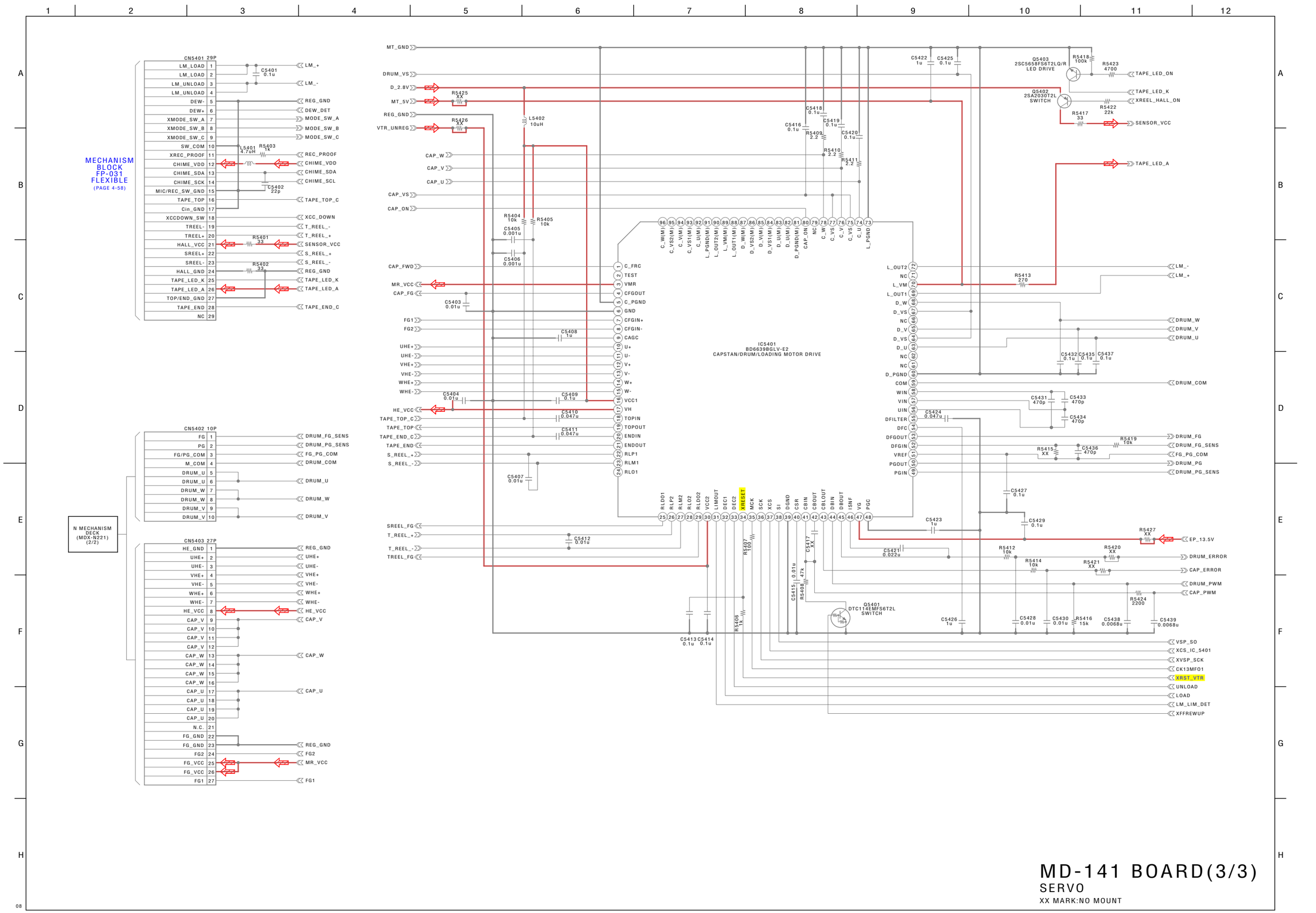
XX MARK:NO MOUNT

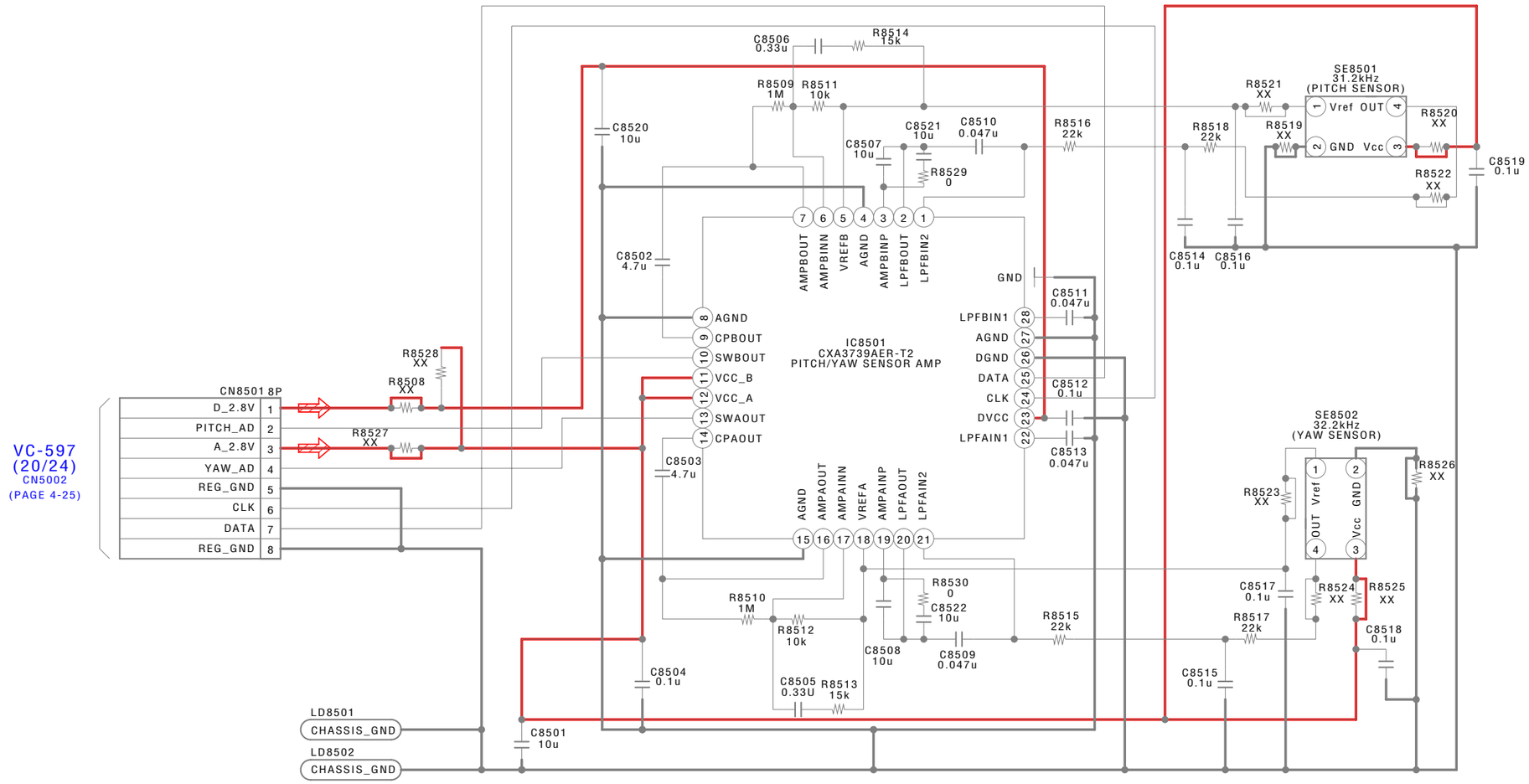


MD-141 BOARD(2/3)

REC/PB AMP

XX MARK:NO MOUNT


CN5401 29P
LM_LOAD 1
LM_LOAD 2
LM_UNLOAD 3
LM_UNLOAD 4
DEW- 5
DEW+ 6
XMODE_SW_A 7
XMODE_SW_B 8
XMODE_SW_C 9
SW_COM 10
XREC_PROOF 11
CHIME_VDD 12
CHIME_SDA 13
CHIME_SCK 14
MIC/REC_SW_GND 15
TAPE_TOP 16
Cin_GND 17
XCCDOWN_SW 18
TREEL- 19
TREEL+ 20
HALL_VCC 21
SREEL+ 22
SREEL- 23
HALL_GND 24
TAPE_LED_K 25
TAPE_LED_A 26
TOP/END_GND 27
TAPE_END 28
NC 29
C5401 0.1u
L5401 4.7uH
R5403 1K
C5402 22p
R5401 33
R5402 33
LM_+
LM_-
REG_GND
DEW_DET
MODE_SW_A
MODE_SW_B
MODE_SW_C
REC_PROOF
CHIME_VDD
CHIME_SDA
CHIME_SCL
TAPE_TOP_C
XCC_DOWN
T_REEL_-
T_REEL_+
SENSOR_VCC
S_REEL_+
S_REEL_-
REG_GND
TAPE_LED_K
TAPE_LED_A
TAPE_END_C
MECHANISM BLOCK FP-031 FLEXIBLE
(PAGE 4-58)
CN5402 10P
FG 1
PG 2
FG/PG_COM 3
M_COM 4
DRUM_U 5
DRUM_U 6
DRUM_W 7
DRUM_W 8
DRUM_V 9
DRUM_V 10
DRUM_FG_SENS
DRUM_PG_SENS
FG_PG_COM
DRUM_COM
DRUM_U
DRUM_W
DRUM_V
CN5403 27P
HE_GND 1
UHE+ 2
UHE- 3
VHE+ 4
VHE- 5
WHE+ 6
WHE- 7
HE_VCC 8
CAP_V 9
CAP_V 10
CAP_V 11
CAP_V 12
CAP_W 13
CAP_W 14
CAP_W 15
CAP_W 16
CAP_U 17
CAP_U 18
CAP_U 19
CAP_U 20
N.C. 21
FG_GND 22
FG_GND 23
FG2 24
FG_VCC 25
FG_VCC 26
FG1 27
REG_GND
UHE+
UHE-
VHE+
VHE-
WHE+
WHE-
HE_VCC
CAP_V
CAP_W
CAP_U
REG_GND
FG2
MR_VCC
FG1
N MECHANISM DECK (MDX-N221) (2/2)
MT_GND
DRUM_VS
D_2.8V
MT_5V
REG_GND
VTR_UNREG
CAP_W
CAP_V
CAP_U
CAP_VS
CAP_ON
CAP_FWD
MR_VCC
CAP_FG
FG1
FG2
UHE+
UHE-
VHE+
VHE-
WHE+
WHE-
HE_VCC
TAPE_TOP_C
TAPE_TOP
TAPE_END_C
TAPE_END
S_REEL_+
S_REEL_-
SREEL_FG
T_REEL_+
T_REEL_-
TREEL_FG
R5425 XX
R5426 XX
L5402 10uH
R5404 10k
R5405 10k
C5405 0.001u
C5406 0.001u
C5403 0.01u
C5408 1u
C5404 0.01u
C5409 0.1u
C5410 0.047u
C5411 0.047u
C5407 0.01u
C5412 0.01u
C5413 0.1u
C5414 0.1u
C5422 1u
C5425 0.1u
C5418 0.1u
C5419 0.1u
C5416 0.1u
C5420 0.1u
R5409 2.2
R5410 2.2
R5411 2.2
C_W(M) 96
C_VS2(M) 95
C_V(M) 94
C_VS1(M) 93
C_U(M) 92
L_PGND(M) 91
L_OUT2(M) 90
L_VM(M) 89
L_OUT1(M) 88
D_W(M) 87
D_VS2(M) 86
D_V(M) 85
D_VS1(M) 84
D_U(M) 83
D_PGND(M) 82
CAP_ON 81
NC 80
C_W 79
C_VS 78
C_V 77
C_VS 76
C_U 75
L_PGND 74
C_FRC 1
TEST 2
VMR 3
CFGOUT 4
C_PGND 5
GND 6
CFGIN+ 7
CFGIN- 8
CAGC 9
U+ 10
U- 11
V+ 12
V- 13
W+ 14
W- 15
VCC1 16
VH 17
TOPIN 18
TOPOUT 19
ENDIN 20
ENDOUT 21
RLP1 22
RLM1 23
RLO1 24
IC5401
BD6639BGLV-E2
CAPSTAN/DRUM/LOADING MOTOR DRIVE
L_OUT2 72
NC 71
L_VM 70
L_OUT1 69
D_W 68
D_VS 67
NC 66
D_V 65
D_VS 64
D_U 63
NC 62
NC 61
D_PGND 60
COM 59
WIN 58
VIN 57
UIN 56
DFILTER 55
DFC 54
DFGOUT 53
DFGIN 52
VREF 51
PGOUT 50
PGIN 49
R5413 270
C5432 0.1u
C5435 0.1u
C5437 0.1u
C5431 470p
C5433 470p
C5434 470p
C5424 0.047u
R5415 XX
C5436 470p
R5419 10k
C5427 0.1u
C5423 1u
C5429 0.1u
C5421 0.022u
C5426 1u
C5428 0.01u
C5430 0.01u
R5416 15k
C5438 0.0068u
C5439 0.0068u
RLDO1 25
RLP2 26
RLM2 27
RLO2 28
RLDO2 29
VCC2 30
LIMOUT 31
DEC1 32
DEC2 33
XRESET 34
MCK 35
SCK 36
XCS 37
SI 38
DGND 39
CSR 40
CBIN 41
CBOUT 42
CBLOUT 43
DBIN 44
DBOUT 45
ISNF 46
VG 47
PGC 48
R5407 100
C5417 XX
C5415 0.01u
R5408 47k
R5406 1k
Q5401 DTC114EMFS6T2L SWITCH
Q5403 2SC5658FS6T2LQ/R LED DRIVE
R5418 100k
R5423 4700
Q5402 2SA2030T2L SWITCH
R5422 22k
R5417 33
R5427 XX
R5412 10k
R5414 10k
R5420 XX
R5421 XX
R5424 2200
LM_-
LM_+
DRUM_W
DRUM_V
DRUM_U
DRUM_COM
DRUM_FG
DRUM_FG_SENS
FG_PG_COM
DRUM_PG
DRUM_PG_SENS
TAPE_LED_ON
TAPE_LED_K
XREEL_HALL_ON
SENSOR_VCC
TAPE_LED_A
EP_13.5V
DRUM_ERROR
CAP_ERROR
DRUM_PWM
CAP_PWM
VSP_SO
XCS_IC_5401
XVSP_SCK
CK13MFO1
XRST_VTR
UNLOAD
LOAD
LM_LIM_DET
XFFREWUP
MD-141 BOARD(3/3)
SERVO
XX MARK:NO MOUNT

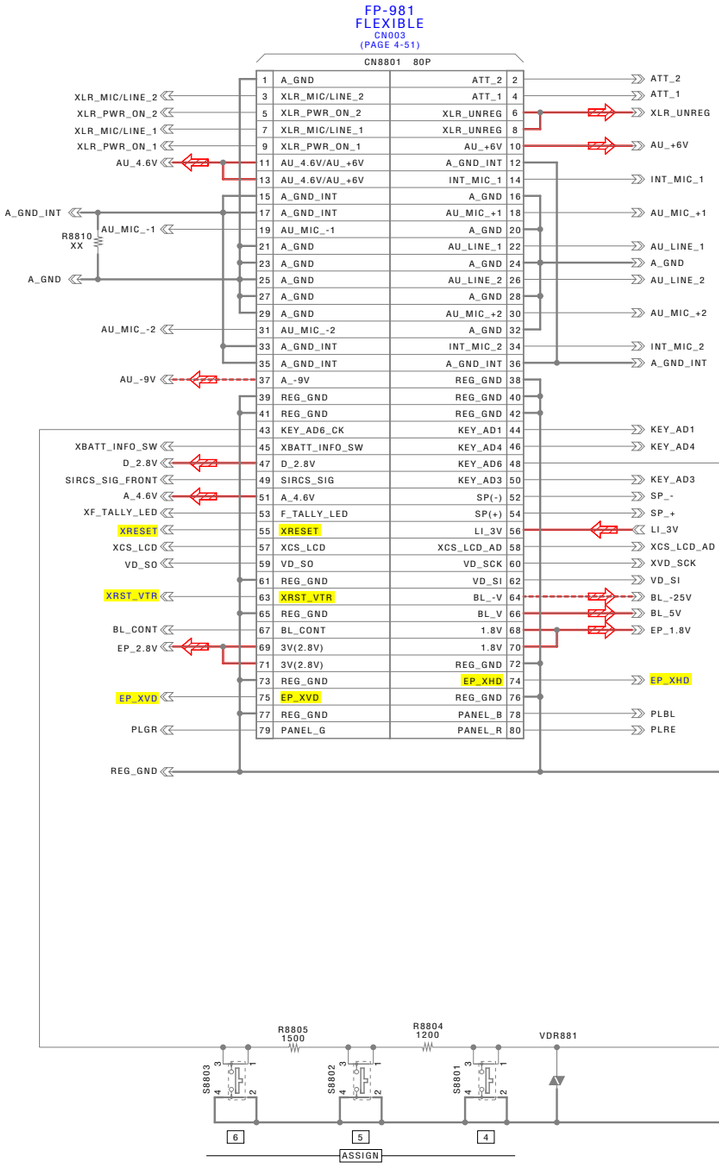


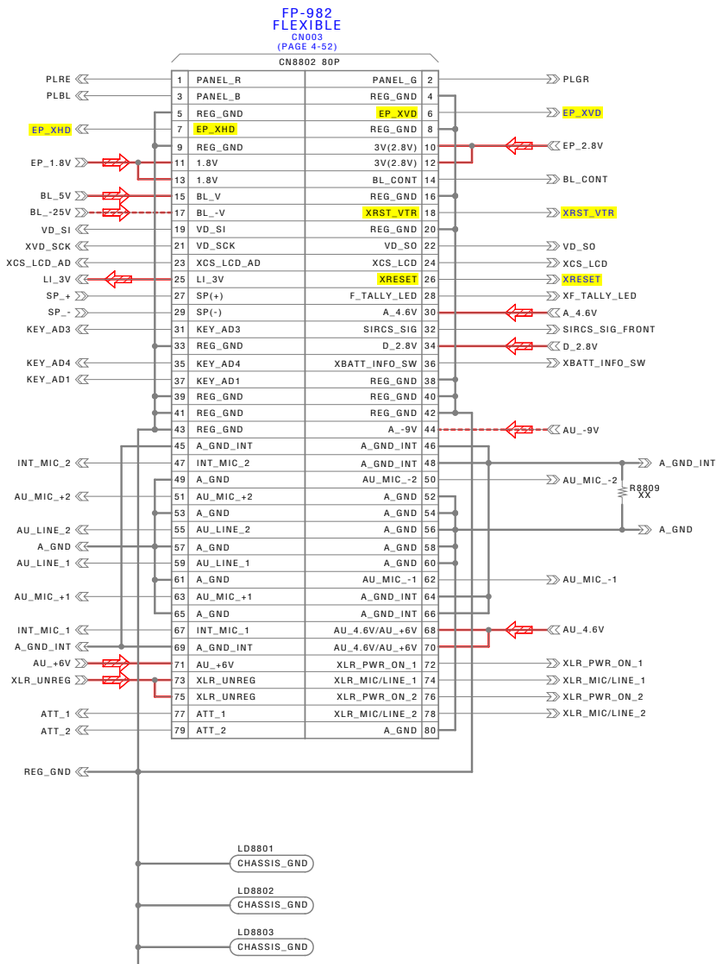
GY-014 BOARD

PITCH/YAW SENSOR AMP

XX MARK:NO MOUNT

NO MARK:REC/PB MODE

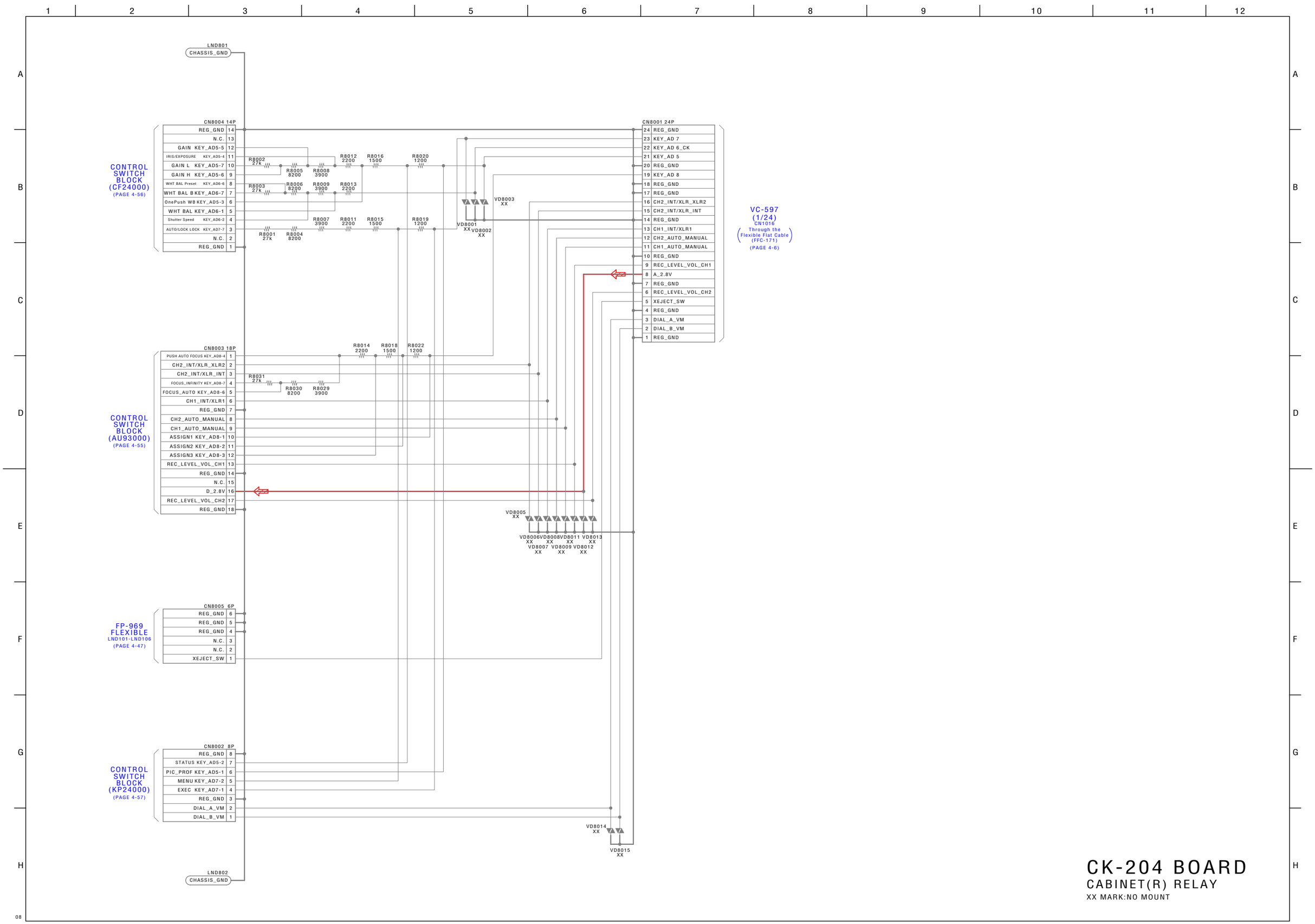




AS-060 BOARD

VC-PI RELAY

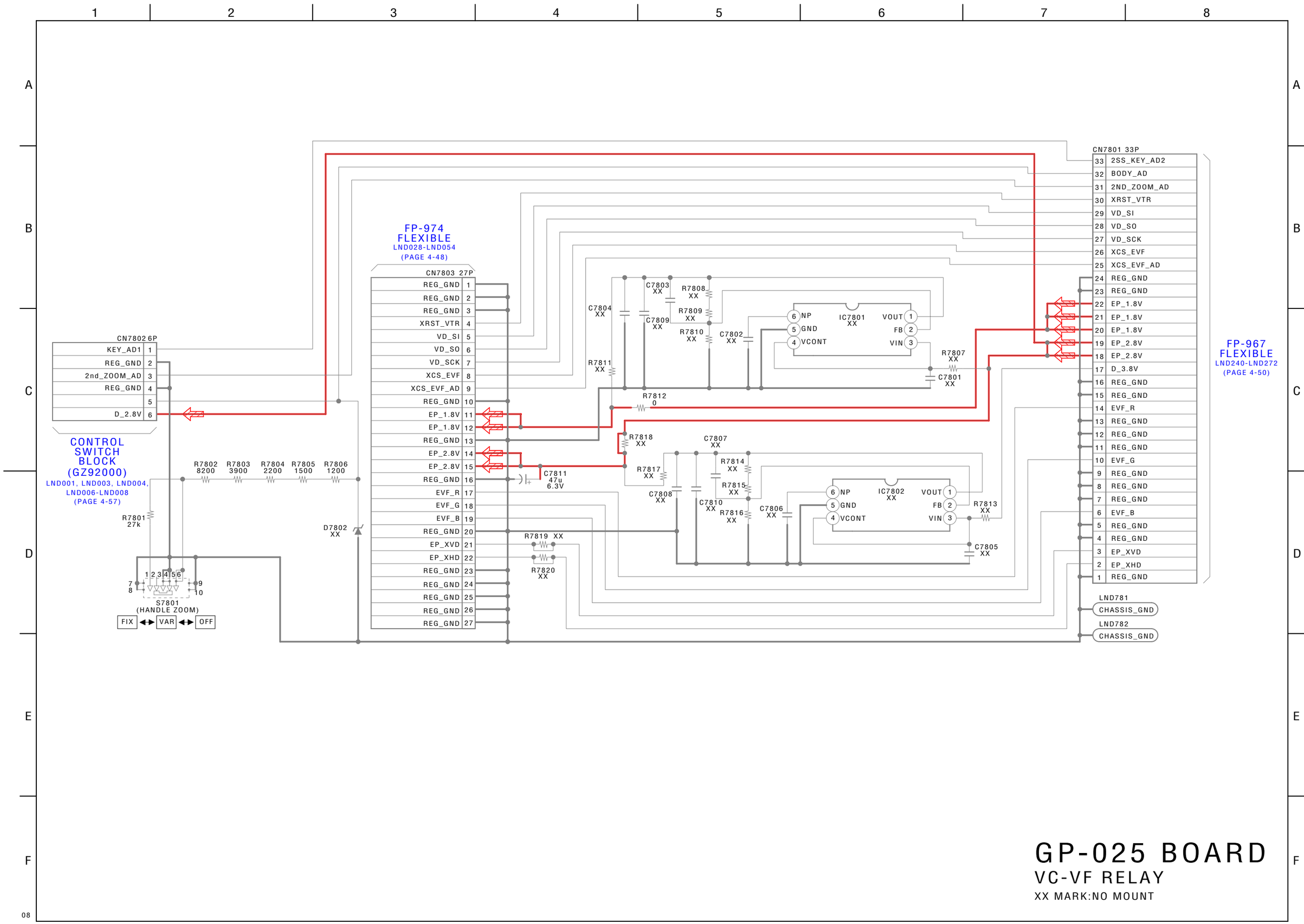
XX MARK:NO MOUNT

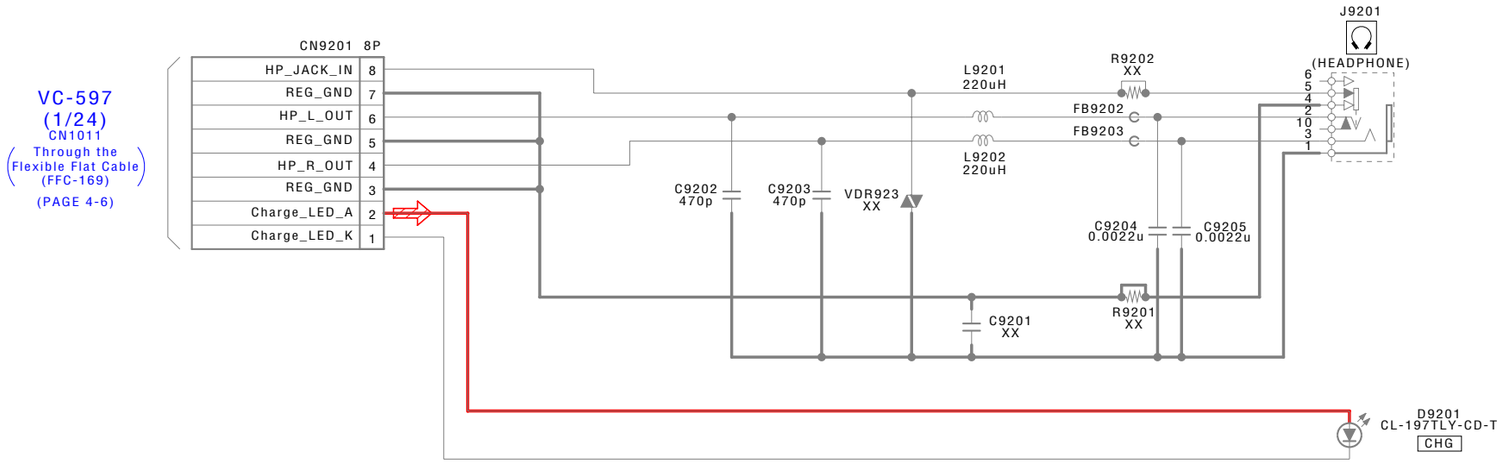


CK-204 BOARD

CABINET(R) RELAY

XX MARK:NO MOUNT

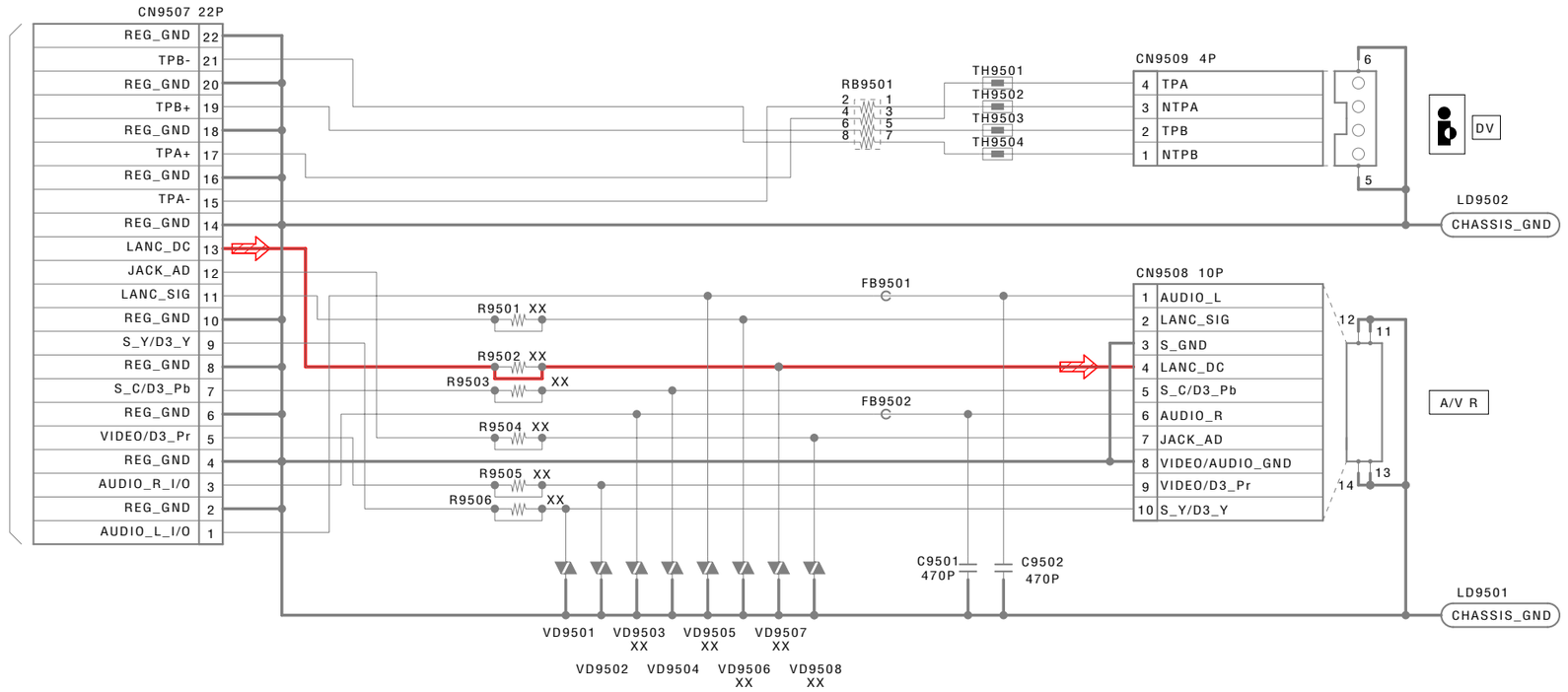

CN7802 6P
KEY_AD1 1
REG_GND 2
2nd_ZOOM_AD 3
REG_GND 4
5
D_2.8V 6
CONTROL SWITCH BLOCK (GZ92000)
LND001, LND003, LND004, LND006-LND008
(PAGE 4-57)
R7801 27k
R7802 8200
R7803 3900
R7804 2200
R7805 1500
R7806 1200
D7802 XX
S7801 (HANDLE ZOOM)
FIX VAR OFF
FP-974 FLEXIBLE
LND028-LND054
(PAGE 4-48)
CN7803 27P
REG_GND 1
REG_GND 2
REG_GND 3
XRST_VTR 4
VD_SI 5
VD_SO 6
VD_SCK 7
XCS_EVF 8
XCS_EVF_AD 9
REG_GND 10
EP_1.8V 11
EP_1.8V 12
REG_GND 13
EP_2.8V 14
EP_2.8V 15
REG_GND 16
EVF_R 17
EVF_G 18
EVF_B 19
REG_GND 20
EP_XVD 21
EP_XHD 22
REG_GND 23
REG_GND 24
REG_GND 25
REG_GND 26
REG_GND 27
C7803 XX
C7804 XX
C7809 XX
R7808 XX
R7809 XX
R7810 XX
R7811 XX
C7802 XX
IC7801 XX
6 NP
5 GND
4 VCONT
VOUT 1
FB 2
VIN 3
R7807 XX
C7801 XX
R7812 0
R7818 XX
C7807 XX
R7814 XX
R7815 XX
R7817 XX
C7808 XX
C7810 XX
R7816 XX
C7806 XX
IC7802 XX
6 NP
5 GND
4 VCONT
VOUT 1
FB 2
VIN 3
R7813 XX
C7805 XX
C7811 47u 6.3V
R7819 XX
R7820 XX
CN7801 33P
33 2SS_KEY_AD2
32 BODY_AD
31 2ND_ZOOM_AD
30 XRST_VTR
29 VD_SI
28 VD_SO
27 VD_SCK
26 XCS_EVF
25 XCS_EVF_AD
24 REG_GND
23 REG_GND
22 EP_1.8V
21 EP_1.8V
20 EP_1.8V
19 EP_2.8V
18 EP_2.8V
17 D_3.8V
16 REG_GND
15 REG_GND
14 EVF_R
13 REG_GND
12 REG_GND
11 REG_GND
10 EVF_G
9 REG_GND
8 REG_GND
7 REG_GND
6 EVF_B
5 REG_GND
4 REG_GND
3 EP_XVD
2 EP_XHD
1 REG_GND
FP-967 FLEXIBLE
LND240-LND272
(PAGE 4-50)
LND781
CHASSIS_GND
LND782
CHASSIS_GND
GP-025 BOARD
VC-VF RELAY
XX MARK:NO MOUNT



HP-153 BOARD

HEADPHONES JACK

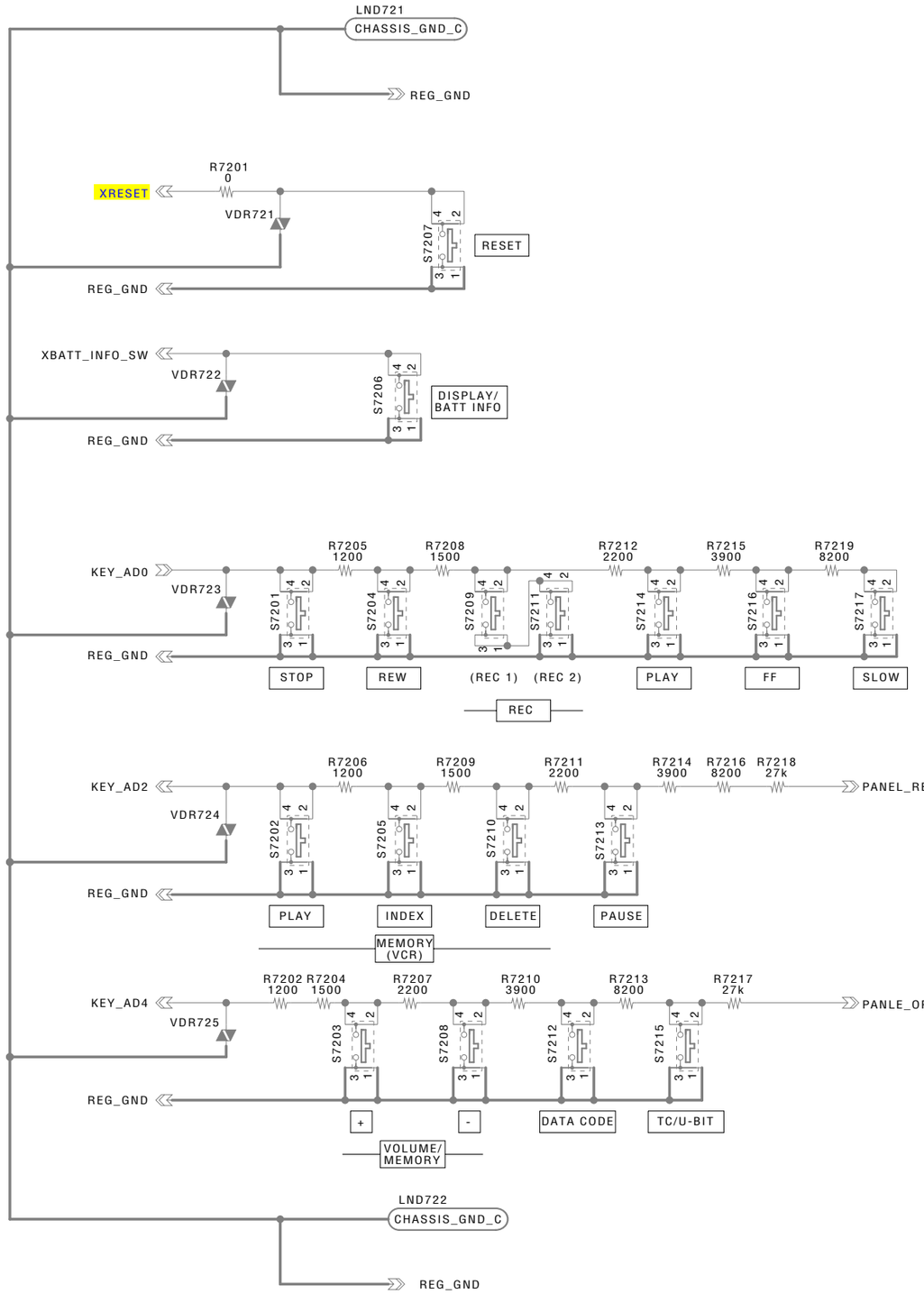
XX MARK:NO MOUNT



JK-376 BOARD

DV, A/V R CONNECTOR

XX MARK:NO MOUNT

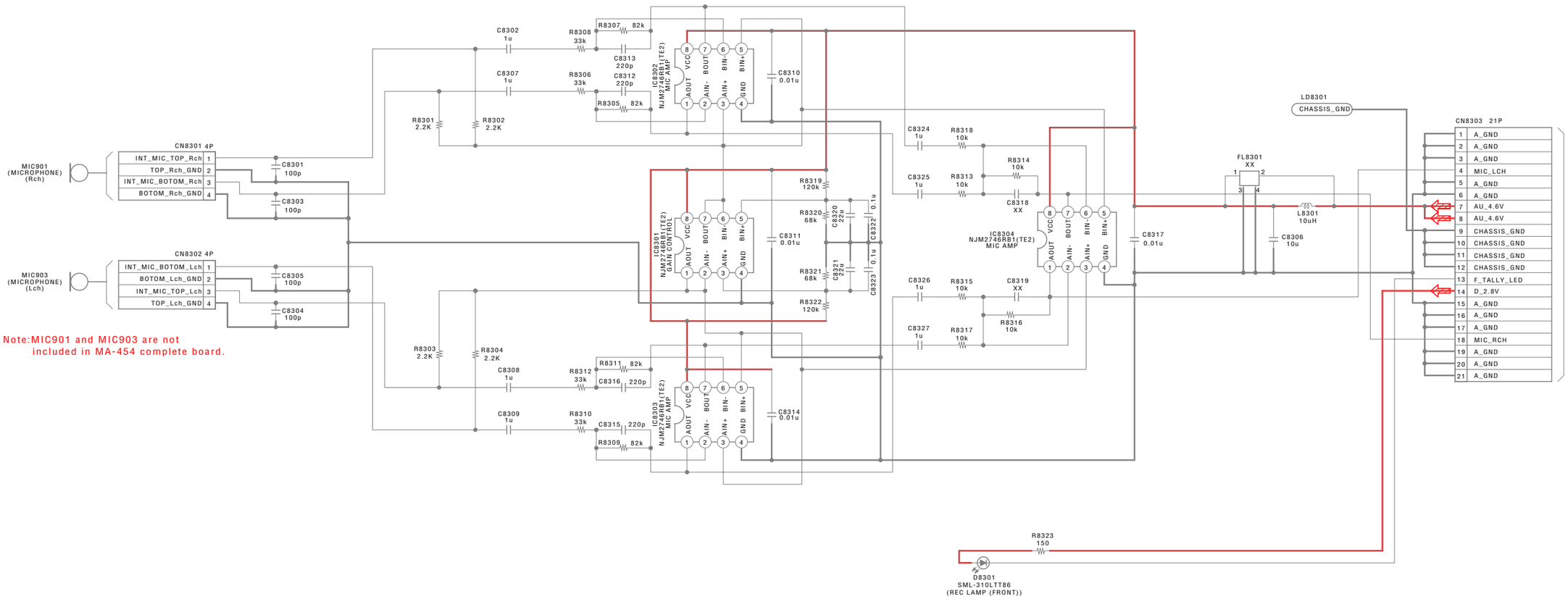


PI-029
(1/2)
CN7007
Through the
Flexible Flat Cable
(FFC-170)
(PAGE 4-30)

CN7201 14P

REG_GND	1	REG_GND
REG_GND	2	
KEY_AD1	3	KEY_AD0
REG_GND	4	
KEY_AD3	5	KEY_AD2
KEY_AD4	6	KEY_AD4
REG_GND	7	
XBATT_INFO_SW	8	XBATT_INFO_SW
REG_GND	9	
XRESET	10	XRESET
REG_GND	11	
PANEL_REVERSE	12	PANEL_REVERSE
PANEL_OPEN	13	PANLE_OPEN
REG_GND	14	

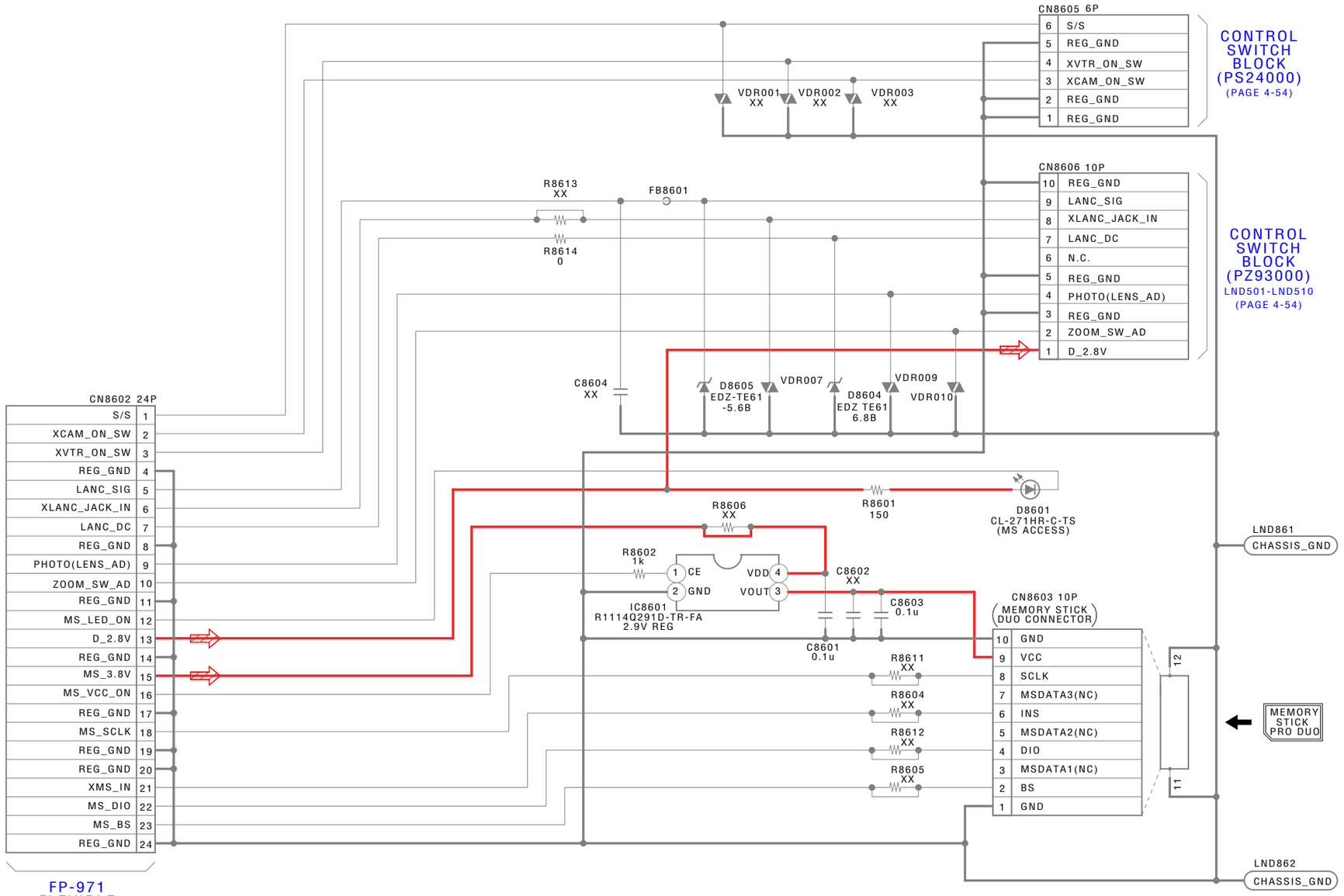
KY-105 BOARD
CONTROL SWITCH



MA-454 BOARD

MIC AMP

XX MARK:NO MOUNT

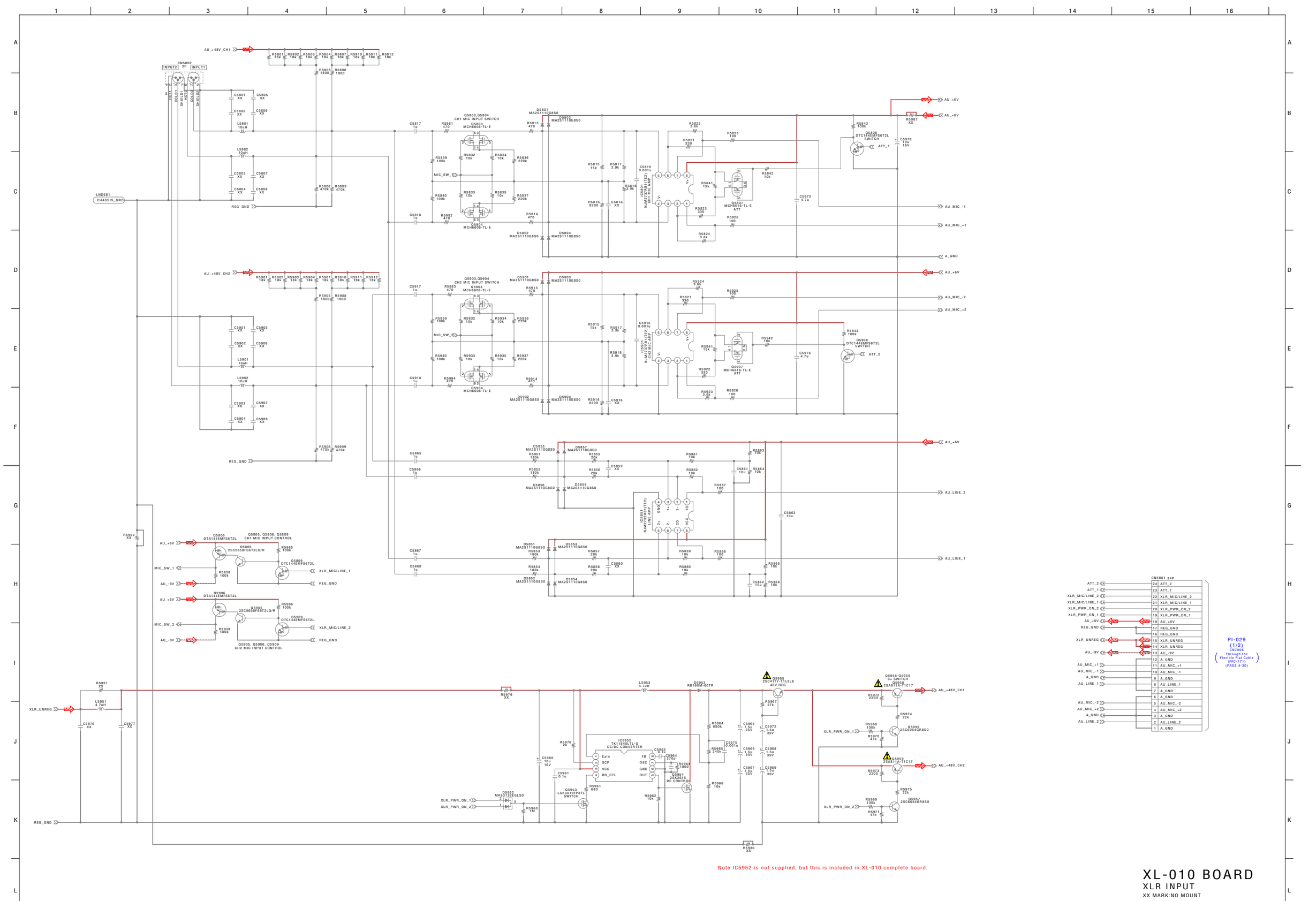


MS-405 BOARD

MS CONNECTOR

XX MARK:NO MOUNT

• Refer to page 4-3 for mark ⚠.

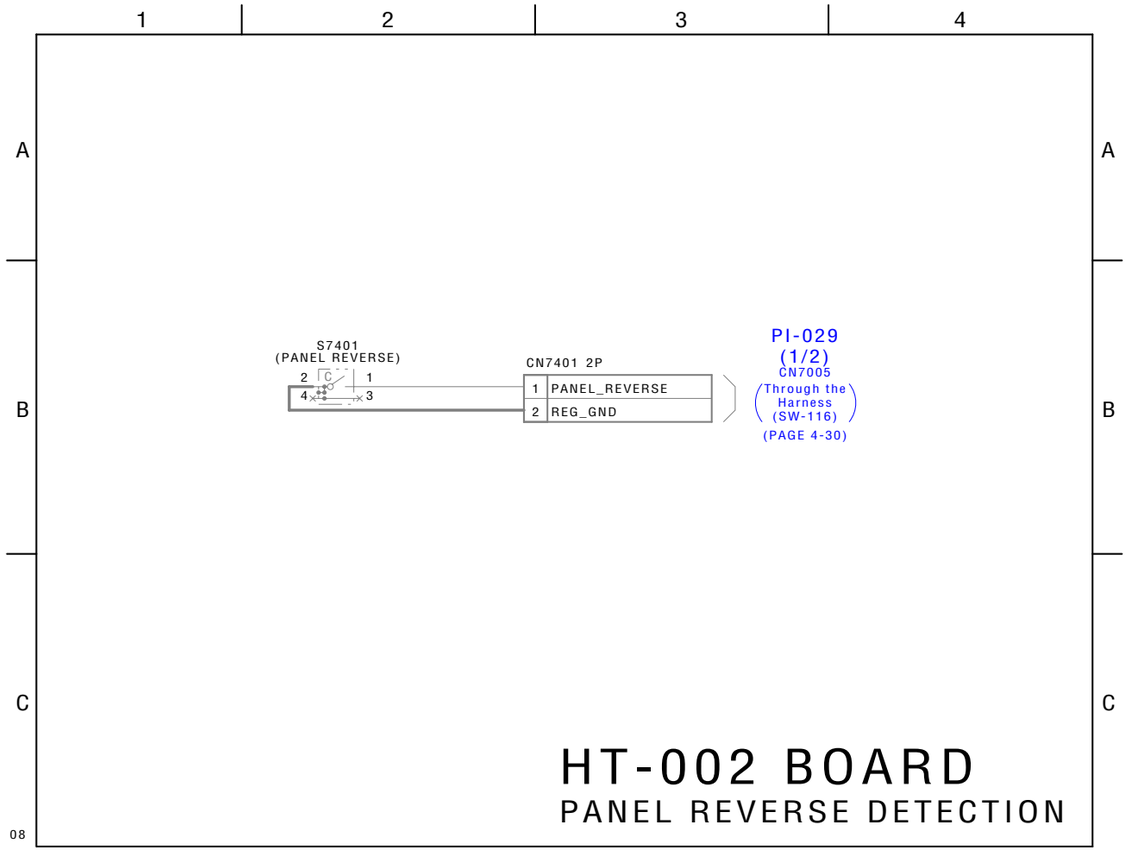


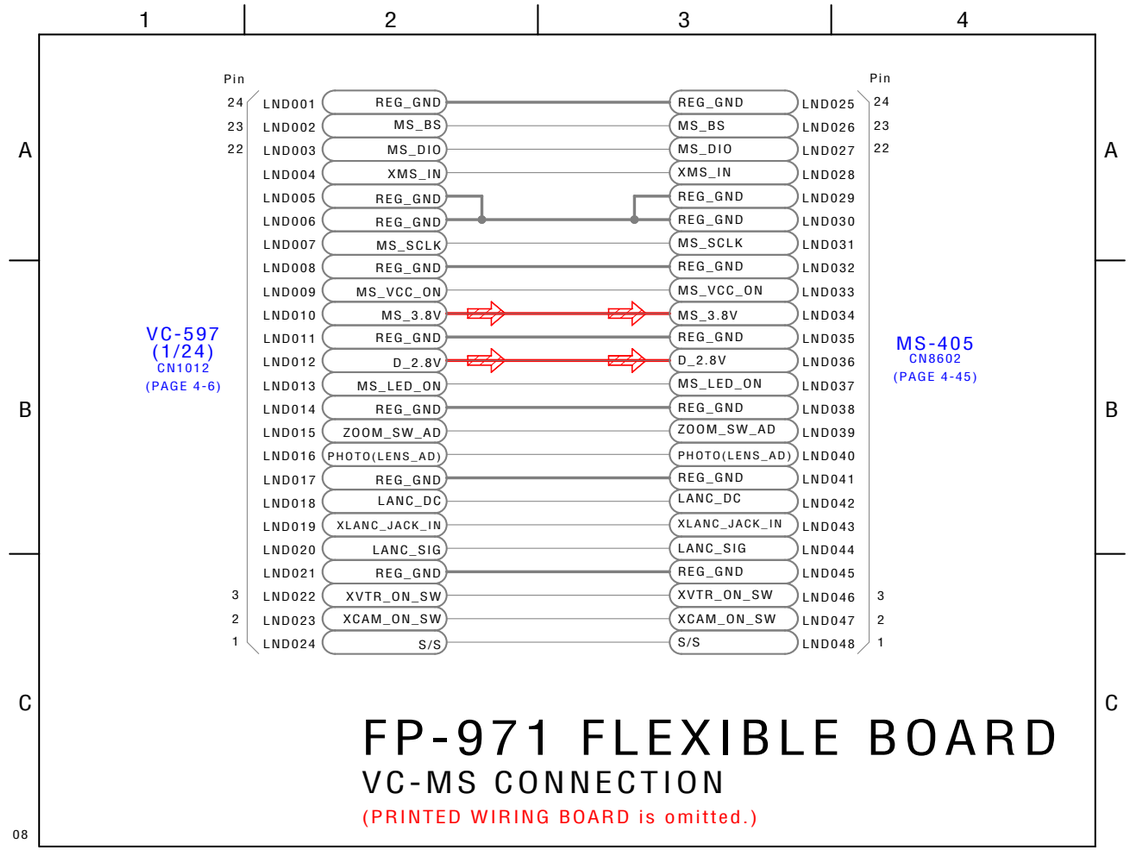
Note:IC5952 is not supplied, but this is included in XL-010 complete board.

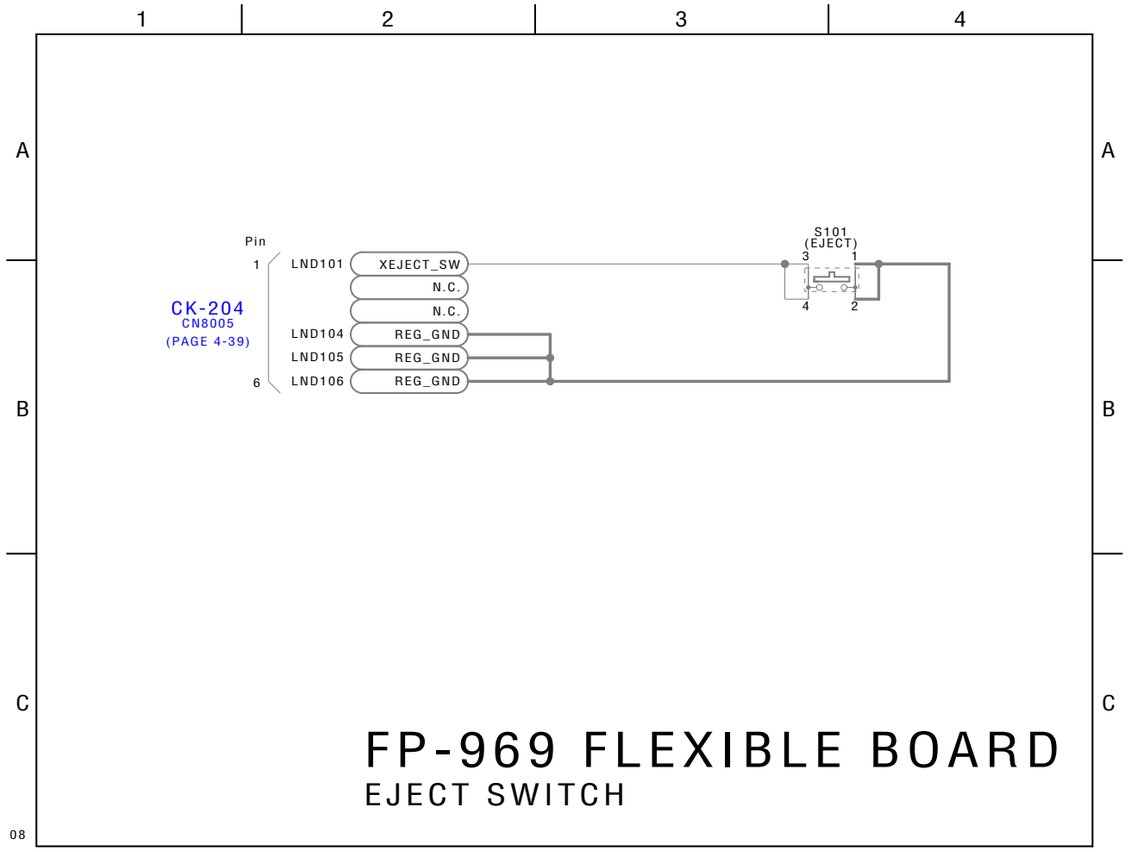
XL-010 BOARD

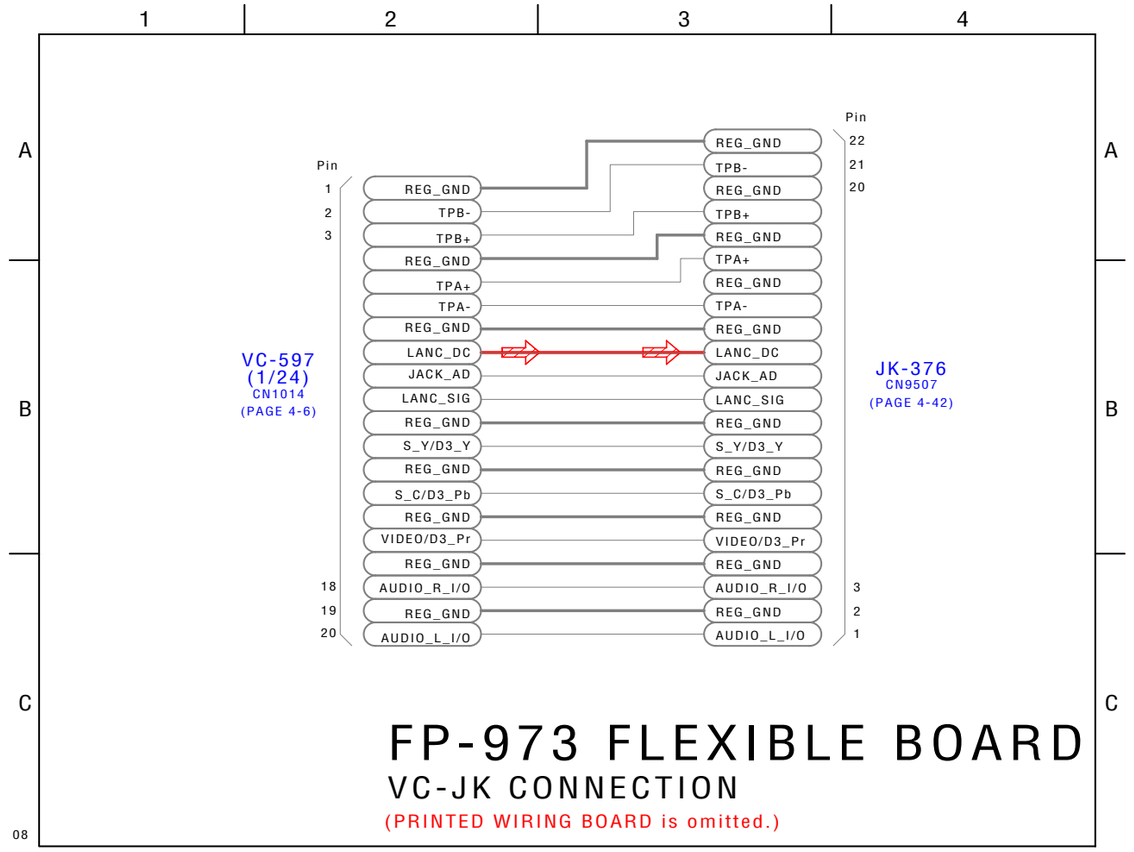
XLR INPUT

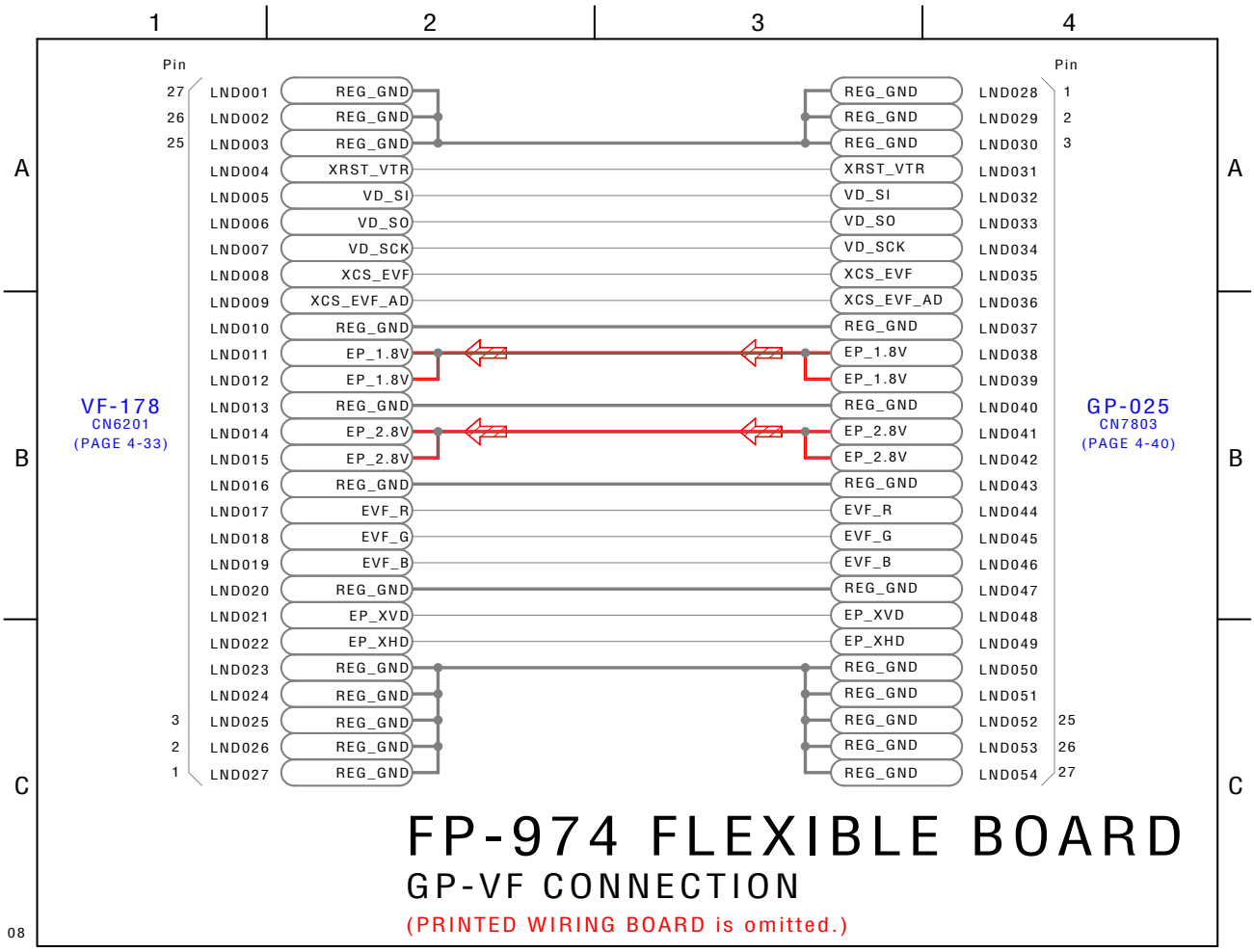
XX MARK:NO MOUNT

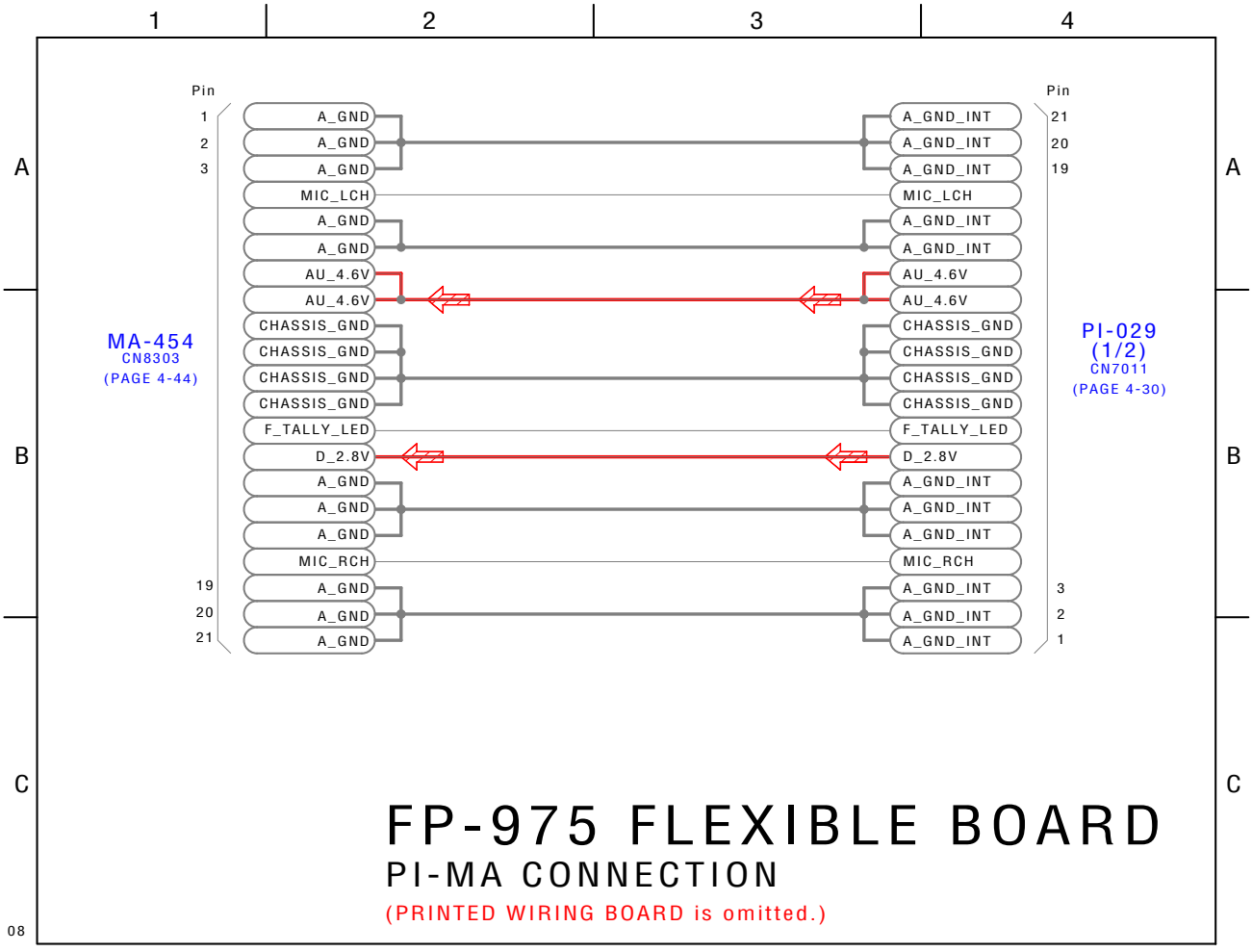

S7401
(PANEL REVERSE)
2
1
4
3
CN7401 2P
1 PANEL_REVERSE
2 REG_GND
PI-029
(1/2)
CN7005
(Through the Harness (SW-116))
(PAGE 4-30)
HT-002 BOARD
PANEL REVERSE DETECTION
08

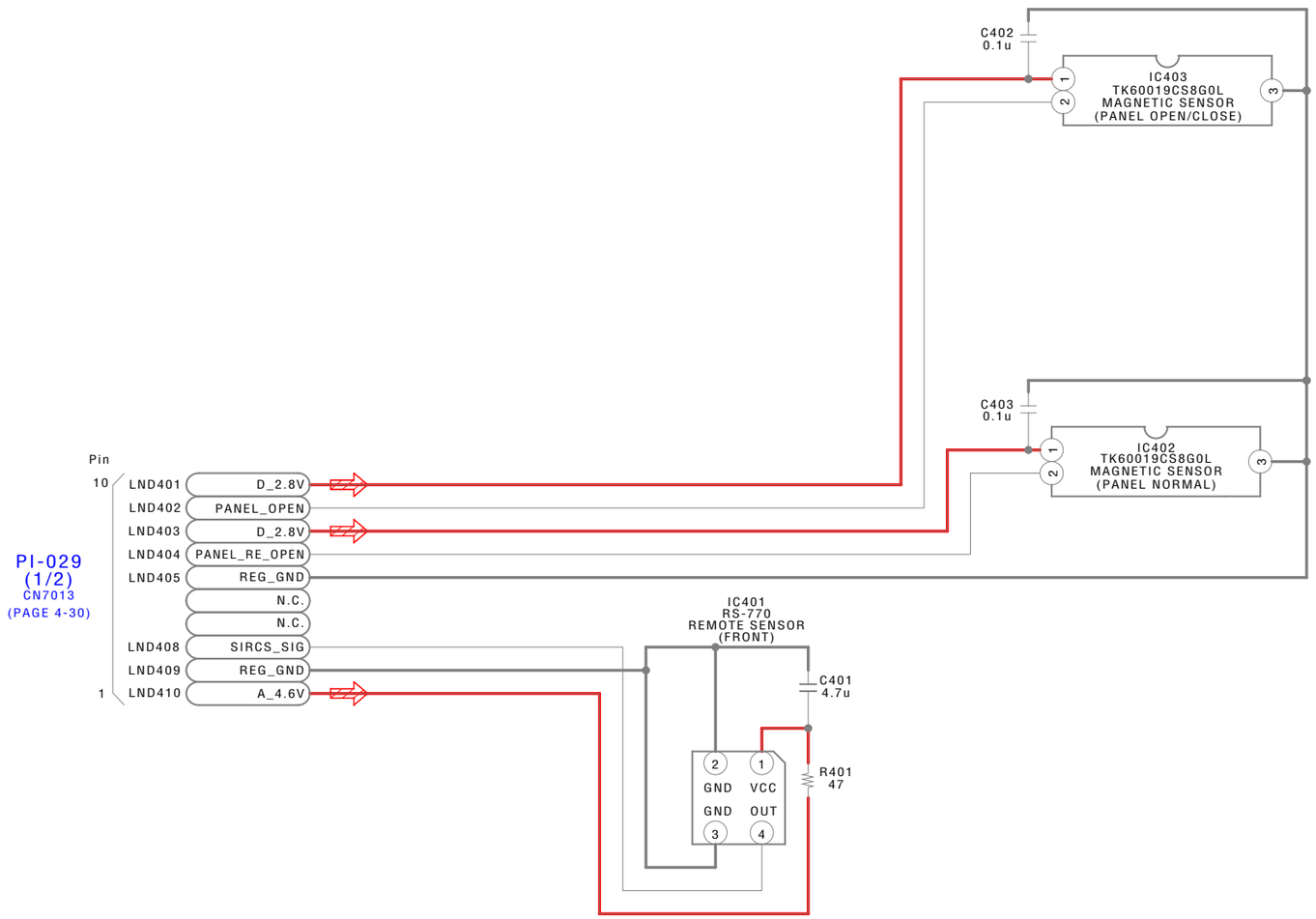

Pin
24 LND001 REG_GND
23 LND002 MS_BS
22 LND003 MS_DIO
LND004 XMS_IN
LND005 REG_GND
LND006 REG_GND
LND007 MS_SCLK
LND008 REG_GND
LND009 MS_VCC_ON
LND010 MS_3.8V
LND011 REG_GND
LND012 D_2.8V
LND013 MS_LED_ON
LND014 REG_GND
LND015 ZOOM_SW_AD
LND016 PHOTO(LENS_AD)
LND017 REG_GND
LND018 LANC_DC
LND019 XLANC_JACK_IN
LND020 LANC_SIG
LND021 REG_GND
3 LND022 XVTR_ON_SW
2 LND023 XCAM_ON_SW
1 LND024 S/S
REG_GND LND025 24
MS_BS LND026 23
MS_DIO LND027 22
XMS_IN LND028
REG_GND LND029
REG_GND LND030
MS_SCLK LND031
REG_GND LND032
MS_VCC_ON LND033
MS_3.8V LND034
REG_GND LND035
D_2.8V LND036
MS_LED_ON LND037
REG_GND LND038
ZOOM_SW_AD LND039
PHOTO(LENS_AD) LND040
REG_GND LND041
LANC_DC LND042
XLANC_JACK_IN LND043
LANC_SIG LND044
REG_GND LND045
XVTR_ON_SW LND046 3
XCAM_ON_SW LND047 2
S/S LND048 1
Pin
VC-597
(1/24)
CN1012
(PAGE 4-6)
MS-405
CN8602
(PAGE 4-45)
FP-971 FLEXIBLE BOARD
VC-MS CONNECTION
(PRINTED WIRING BOARD is omitted.)
08


Pin
1 LND101 XEJECT_SW
N.C.
N.C.
LND104 REG_GND
LND105 REG_GND
6 LND106 REG_GND
S101
(EJECT)
3
1
4
2
CK-204
CN8005
(PAGE 4-39)
FP-969 FLEXIBLE BOARD
EJECT SWITCH
08


Pin
1 REG_GND
2 TPB-
3 TPB+
REG_GND
TPA+
TPA-
REG_GND
LANC_DC
JACK_AD
LANC_SIG
REG_GND
S_Y/D3_Y
REG_GND
S_C/D3_Pb
REG_GND
VIDEO/D3_Pr
REG_GND
18 AUDIO_R_I/O
19 REG_GND
20 AUDIO_L_I/O
REG_GND 22
TPB- 21
REG_GND 20
TPB+
REG_GND
TPA+
REG_GND
TPA-
REG_GND
LANC_DC
JACK_AD
LANC_SIG
REG_GND
S_Y/D3_Y
REG_GND
S_C/D3_Pb
REG_GND
VIDEO/D3_Pr
REG_GND
AUDIO_R_I/O 3
REG_GND 2
AUDIO_L_I/O 1
Pin
VC-597
(1/24)
CN1014
(PAGE 4-6)
JK-376
CN9507
(PAGE 4-42)
FP-973 FLEXIBLE BOARD
VC-JK CONNECTION
(PRINTED WIRING BOARD is omitted.)
08

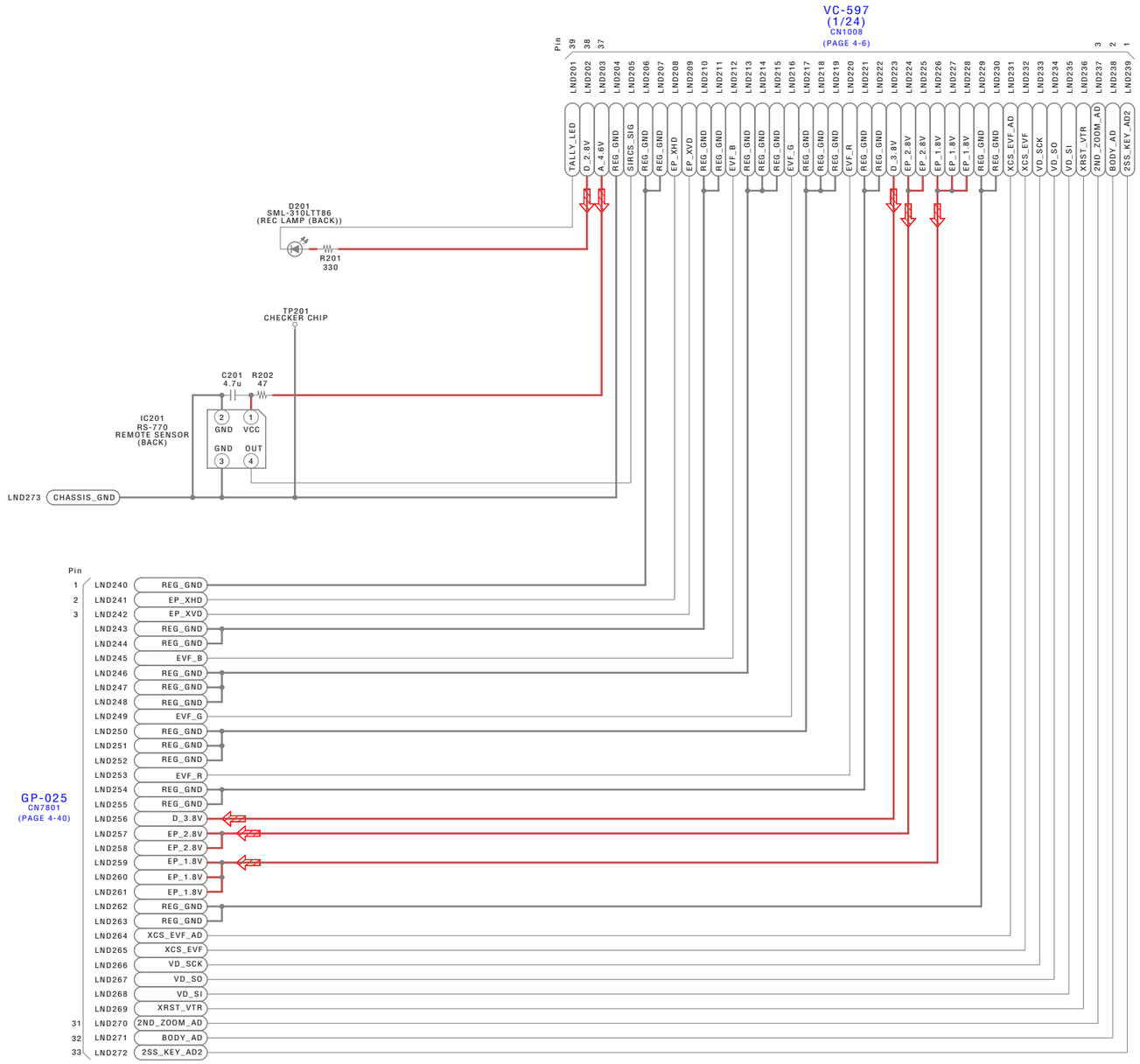

1
2
3
4
A
B
C
08
Pin
27
26
25
3
2
1
LND001
LND002
LND003
LND004
LND005
LND006
LND007
LND008
LND009
LND010
LND011
LND012
LND013
LND014
LND015
LND016
LND017
LND018
LND019
LND020
LND021
LND022
LND023
LND024
LND025
LND026
LND027
REG_GND
REG_GND
REG_GND
XRST_VTR
VD_SI
VD_SO
VD_SCK
XCS_EVF
XCS_EVF_AD
REG_GND
EP_1.8V
EP_1.8V
REG_GND
EP_2.8V
EP_2.8V
REG_GND
EVF_R
EVF_G
EVF_B
REG_GND
EP_XVD
EP_XHD
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
REG_GND
LND028
LND029
LND030
LND031
LND032
LND033
LND034
LND035
LND036
LND037
LND038
LND039
LND040
LND041
LND042
LND043
LND044
LND045
LND046
LND047
LND048
LND049
LND050
LND051
LND052
LND053
LND054
Pin
1
2
3
25
26
27
VF-178
CN6201
(PAGE 4-33)
GP-025
CN7803
(PAGE 4-40)
FP-974 FLEXIBLE BOARD
GP-VF CONNECTION
(PRINTED WIRING BOARD is omitted.)


1
2
3
4
A
B
C
08
Pin
1
2
3
19
20
21
A_GND
A_GND
A_GND
MIC_LCH
A_GND
A_GND
AU_4.6V
AU_4.6V
CHASSIS_GND
CHASSIS_GND
CHASSIS_GND
CHASSIS_GND
F_TALLY_LED
D_2.8V
A_GND
A_GND
A_GND
MIC_RCH
A_GND
A_GND
A_GND
A_GND_INT
A_GND_INT
A_GND_INT
MIC_LCH
A_GND_INT
A_GND_INT
AU_4.6V
AU_4.6V
CHASSIS_GND
CHASSIS_GND
CHASSIS_GND
CHASSIS_GND
F_TALLY_LED
D_2.8V
A_GND_INT
A_GND_INT
A_GND_INT
MIC_RCH
A_GND_INT
A_GND_INT
A_GND_INT
Pin
21
20
19
3
2
1
MA-454
CN8303
(PAGE 4-44)
PI-029
(1/2)
CN7011
(PAGE 4-30)
FP-975 FLEXIBLE BOARD
PI-MA CONNECTION
(PRINTED WIRING BOARD is omitted.)



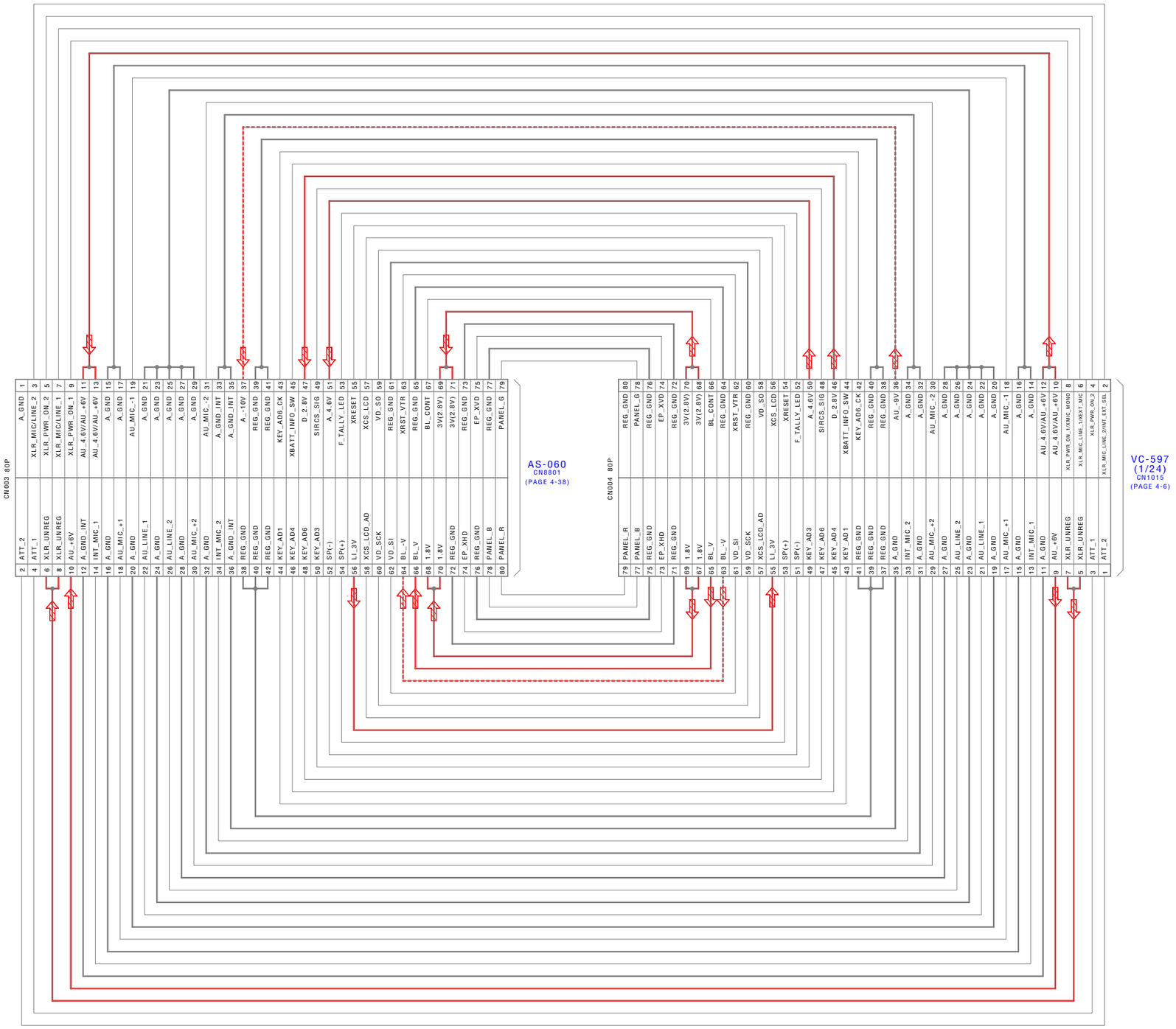
FP-966 FLEXIBLE BOARD

REMOTE SENSOR(FRONT), PANEL DETECT



FP-967 FLEXIBLE BOARD

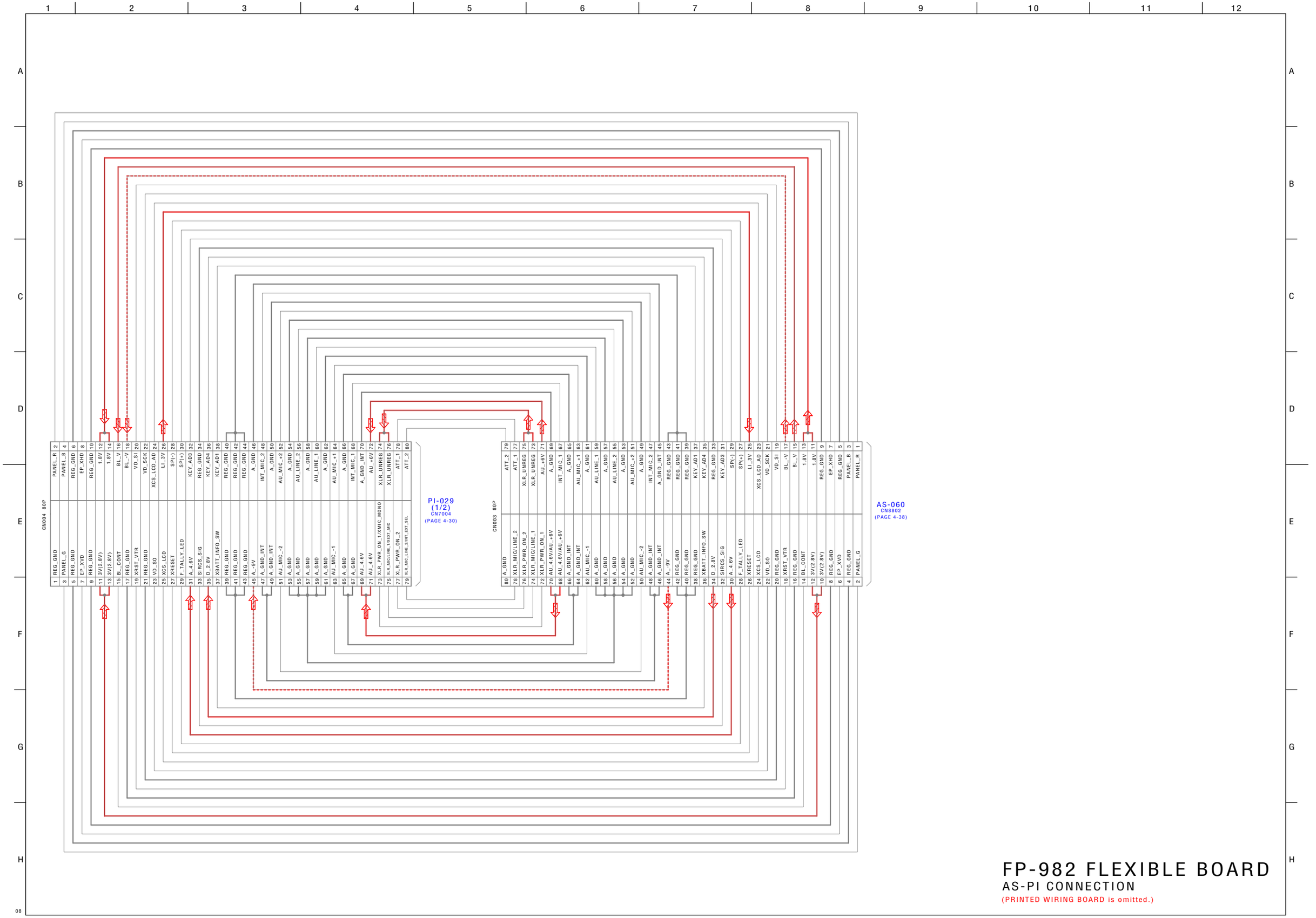
VC-GP CONNECTION, REMOTE SENSOR(BACK)



FP-981 FLEXIBLE BOARD

VC-AS CONNECTION

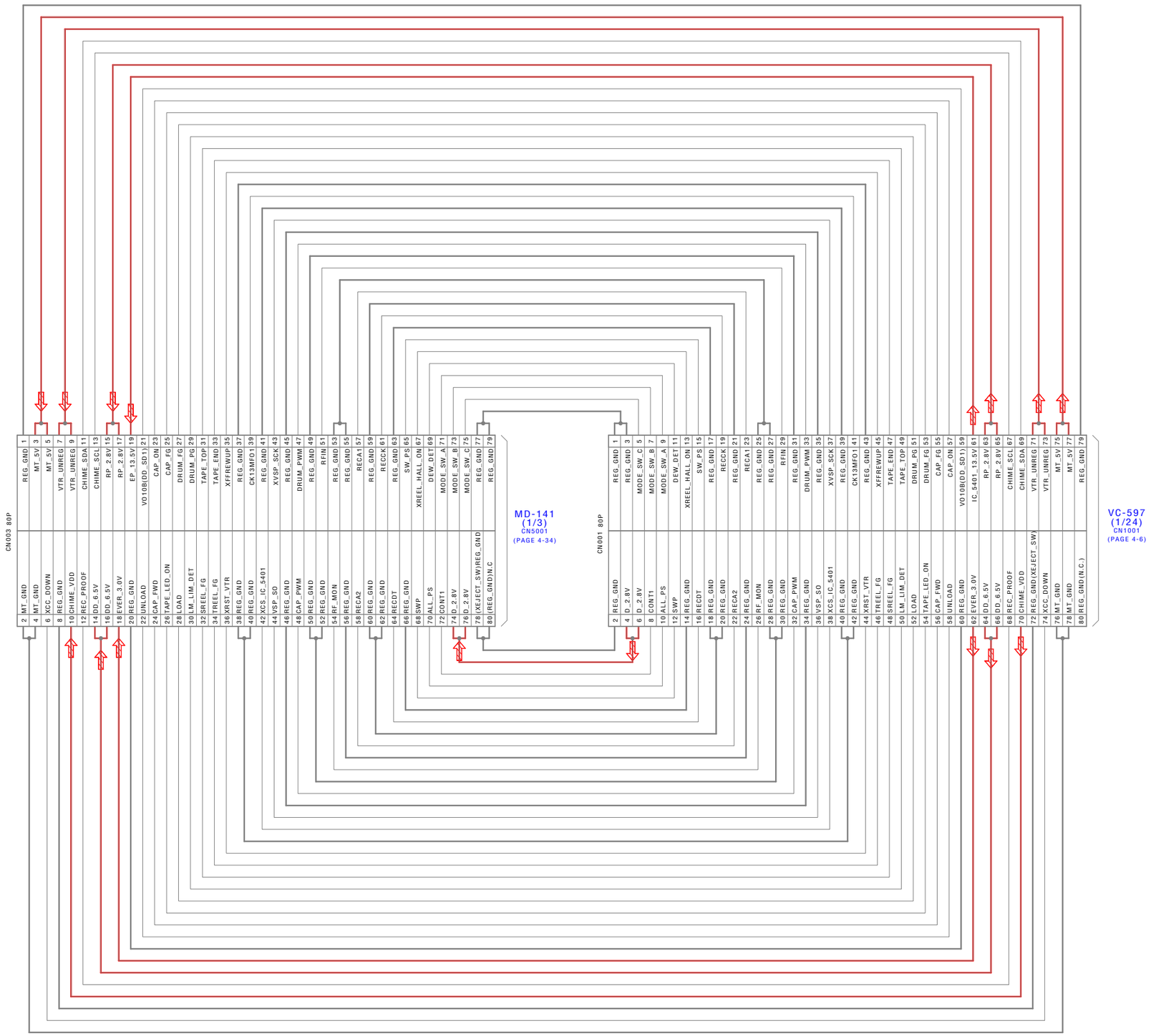
(PRINTED WIRING BOARD is omitted.)



FP-982 FLEXIBLE BOARD

AS-PI CONNECTION

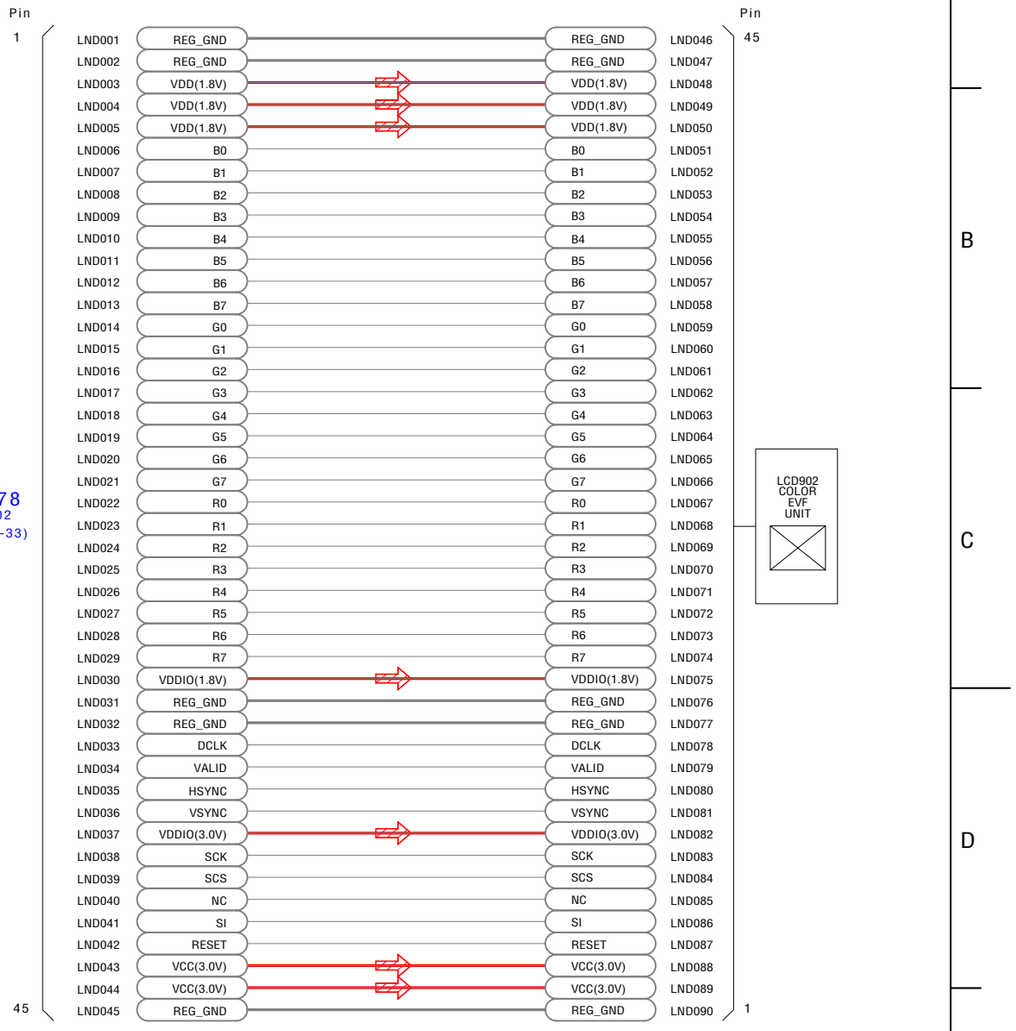
(PRINTED WIRING BOARD is omitted.)



FP-983 FLEXIBLE BOARD

VC-MD CONECTION

(PRINTED WIRING BOARD is omitted.)

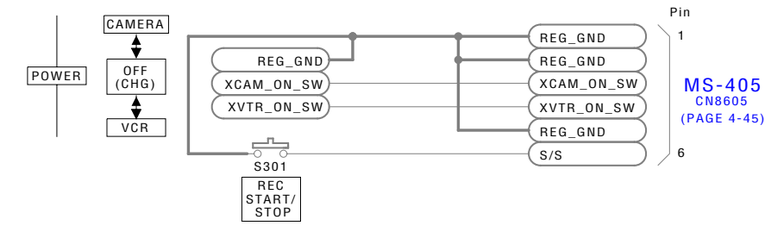


Note: LCD902 is not included
in FP-776 flexible board.

FP-776 FLEXIBLE BOARD

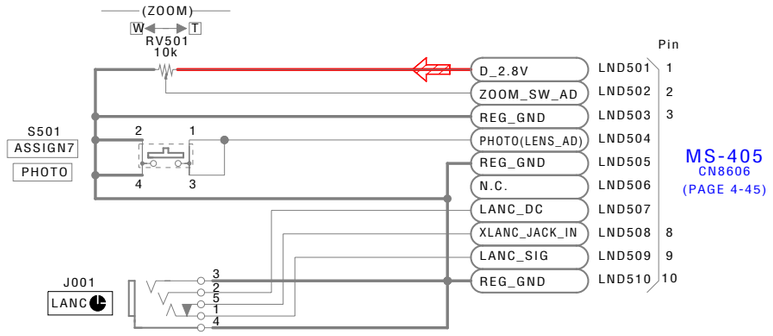
VF-EVF CONNECTION

(PRINTED WIRING BOARD is omitted.)



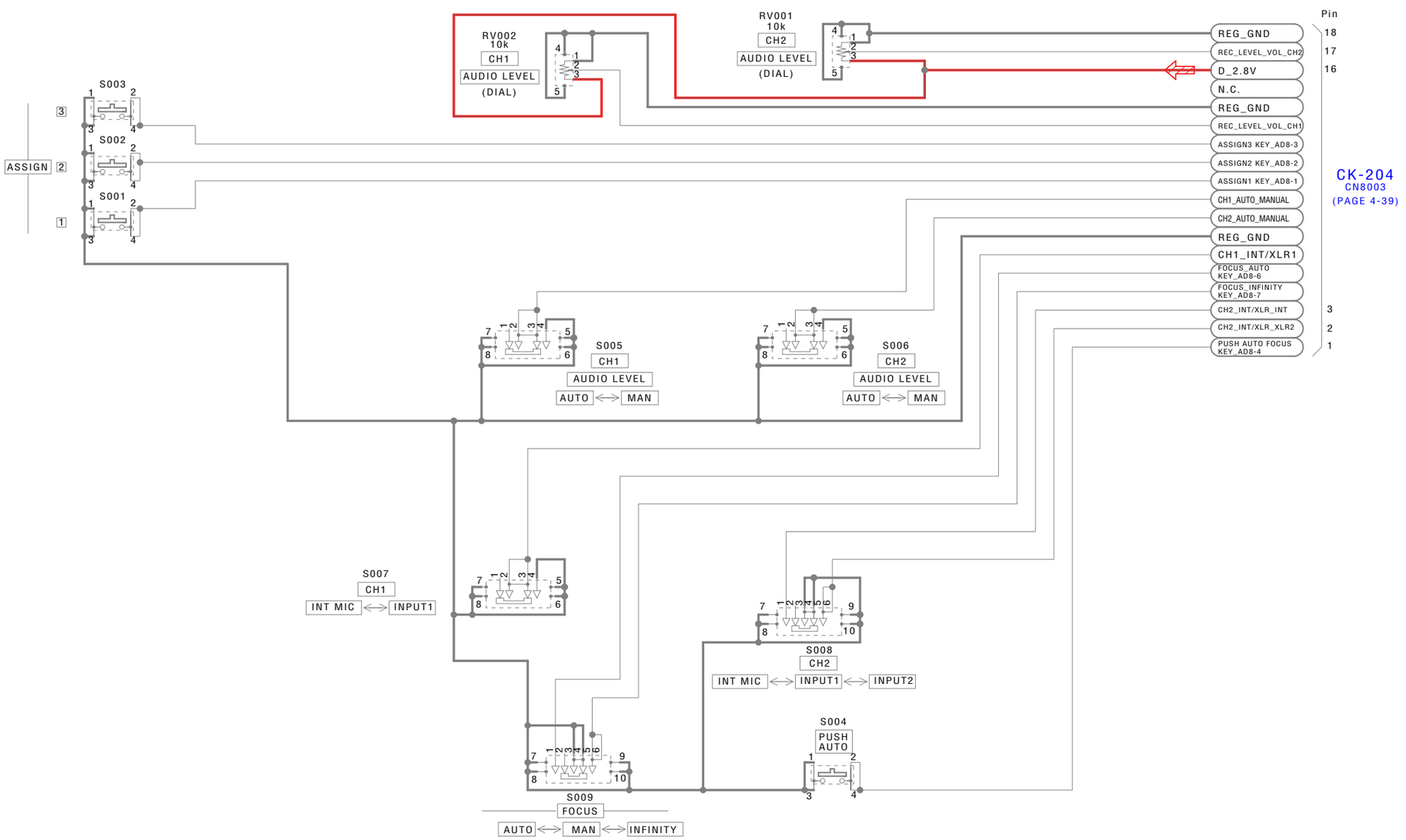
CONTROL SWITCH BLOCK (PS24000)

(CONTROL SWITCH BLOCK(PS24000)is replaced as block,
so that PRINTED WIRING BOARD is omitted.)



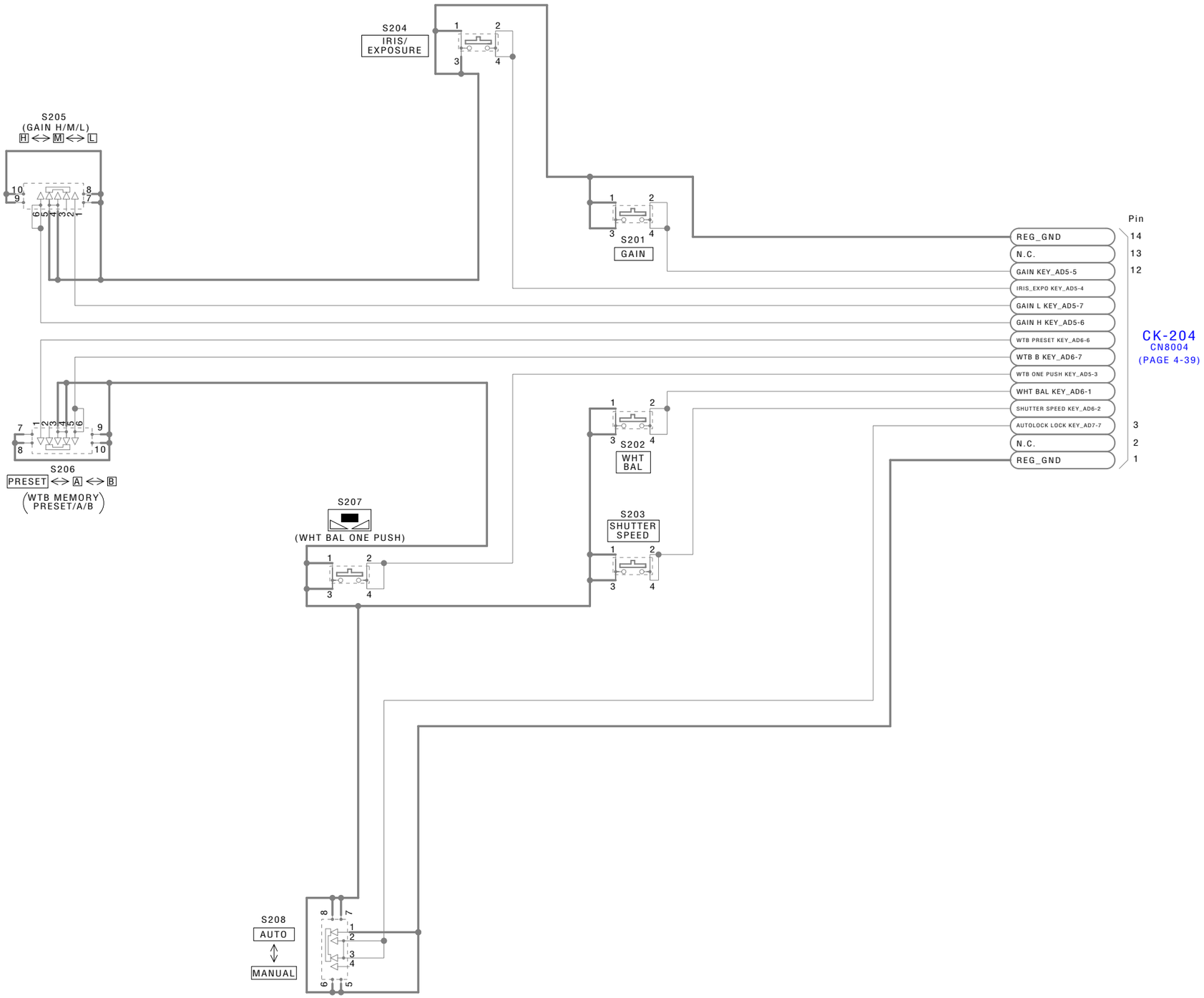
CONTROL SWITCH BLOCK (PZ93000)

(CONTROL SWITCH BLOCK(PZ93000)is replaced as block,
so that PRINTED WIRING BOARD is omitted.)



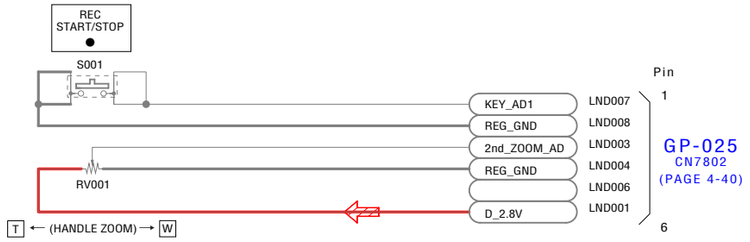
CONTROL SWITCH BLOCK (AU93000)

(CONTROL SWITCH BLOCK(AU93000)is replaced as block, so that PRINTED WIRING BOARD is omitted.)



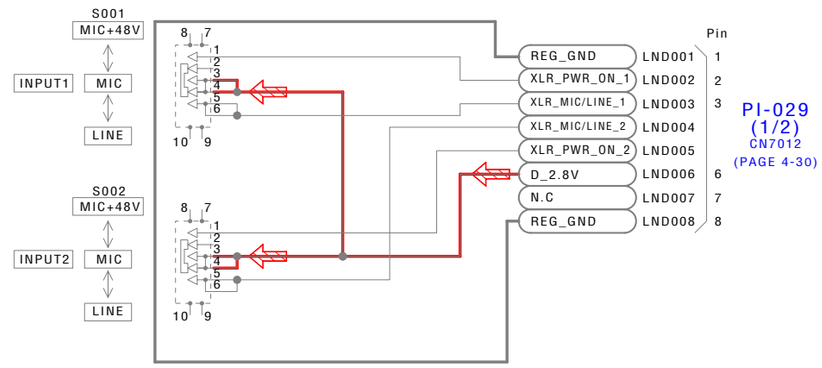
CONTROL SWITCH BLOCK (CF24000)

(CONTROL SWITCH BLOCK(CF24000)is replaced as block, so that PRINTED WIRING BOARD is omitted.)



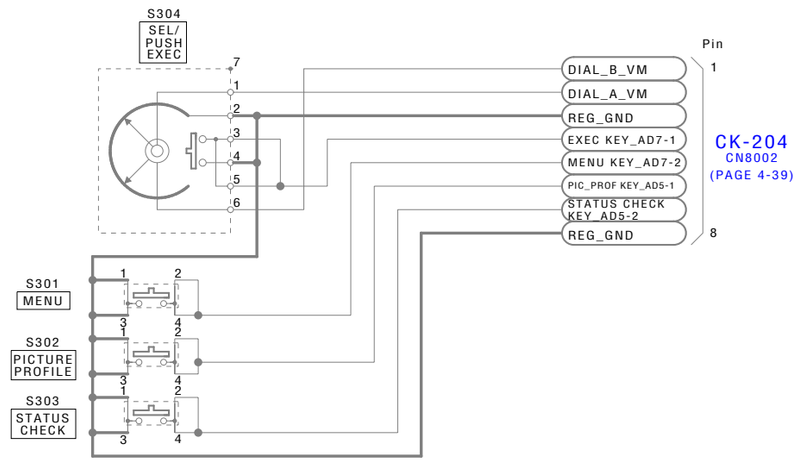
CONTROL SWITCH BLOCK (GZ92000)

(CONTROL SWITCH BLOCK(GZ92000)is replaced as block, so that PRINTED WIRING BOARD is omitted.)



CONTROL SWITCH BLOCK (XS93000)

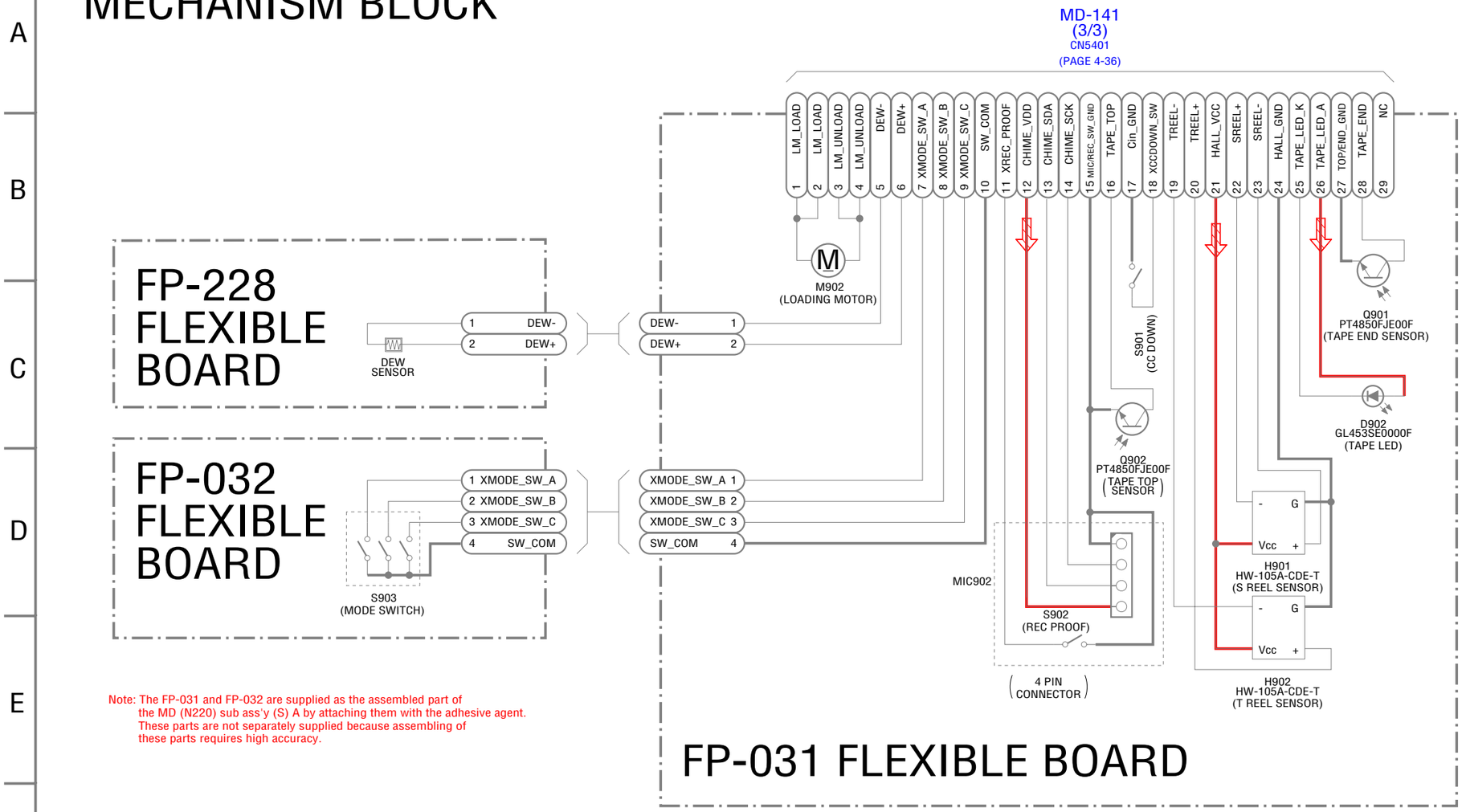
(CONTROL SWITCH BLOCK(XS93000)is replaced as block, so that PRINTED WIRING BOARD is omitted.)



CONTROL SWITCH BLOCK (KP24000)

(CONTROL SWITCH BLOCK(KP24000)is replaced as block, so that PRINTED WIRING BOARD is omitted.)

MECHANISM BLOCK



Note: The FP-031 and FP-032 are supplied as the assembled part of the MD (N220) sub ass'y (S) A by attaching them with the adhesive agent. These parts are not separately supplied because assembling of these parts requires high accuracy.

08

4-3. PRINTED WIRING BOARDS

Link

- CM-097 BOARD
- CM-104 BOARD
- VC-597 BOARD (SIDE A)
- VC-597 BOARD (SIDE B)
- PI-029 BOARD
- PD-372 BOARD
- VF-178 BOARD
- MD-141 BOARD
- GY-014 BOARD
- AS-060 BOARD
- CK-204 BOARD
- GP-025 BOARD
- HP-153 BOARD
- JK-376 BOARD
- KY-105 BOARD
- MA-454 BOARD
- MS-405 BOARD
- XL-010 BOARD
- HT-002 BOARD
- FP-966 FLEXIBLE BOARD
- FP-967 FLEXIBLE BOARD
- FP-969 FLEXIBLE BOARD
- FP-031, FP-032, FP-228 FLEXIBLE BOARD
- COMMON NOTE FOR PRINTED WIRING BOARDS

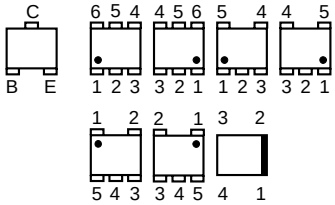
4-3. PRINTED WIRING BOARDS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS

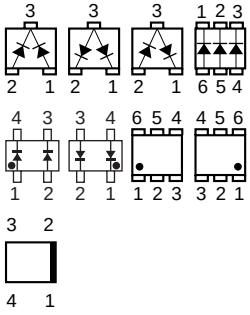
- : Uses unleaded solder.
- : Circuit board
  : Flexible board
  Pattern from the side which enables seeing.
  : pattern of the rear side
  (The other layers' patterns are not indicated)
- Through hole is omitted.
- There are a few cases that the part printed on diagram isn't mounted in this model.
- : panel designation

- Chip parts.

Transistor



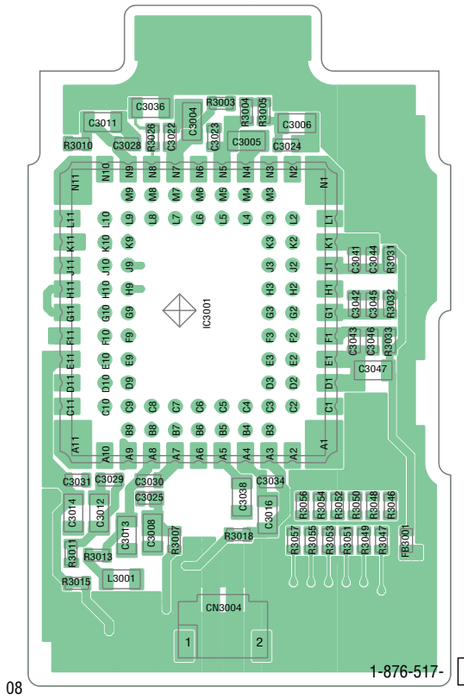
Diode



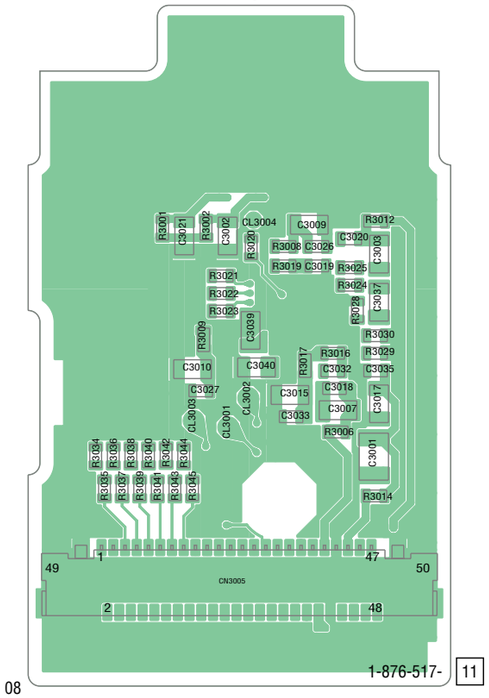
CM-097 (6 layers), CM-104 (6 layers)

: Uses unleaded solder.

CM-097 BOARD (SIDE A)



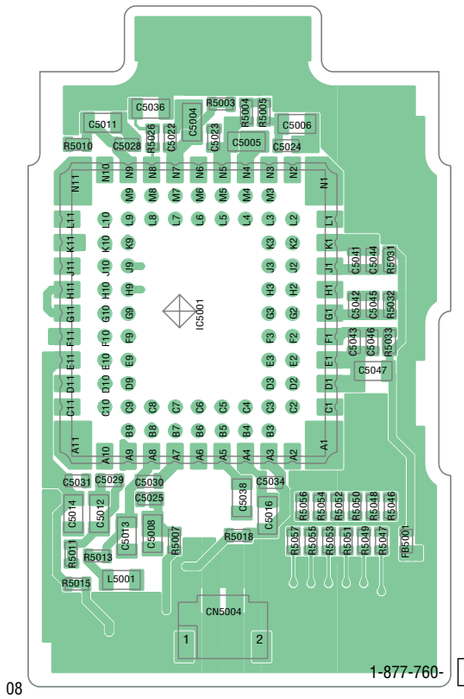
CM-097 BOARD (SIDE B)



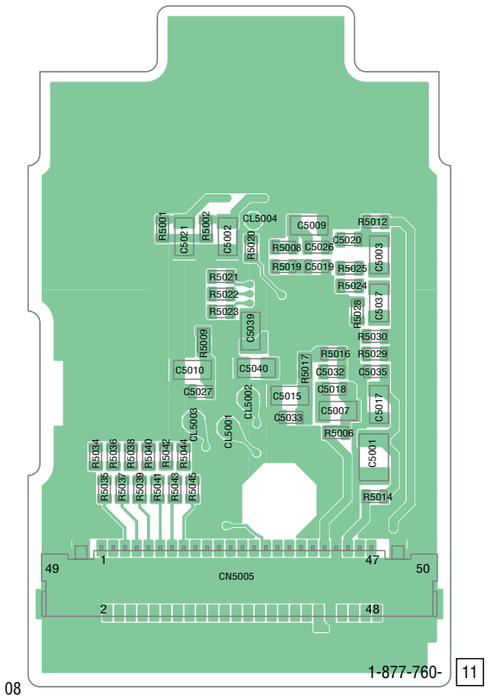
Note: In red and blue, the same CM-097 board is used respective.

Note: CM-097 complete board and all mounted parts (including IC3001(CMOS IMAGER)) are not supplied, but they are included in PRISM DEVICE(service).

CM-104 BOARD (SIDE A)



CM-104 BOARD (SIDE B)



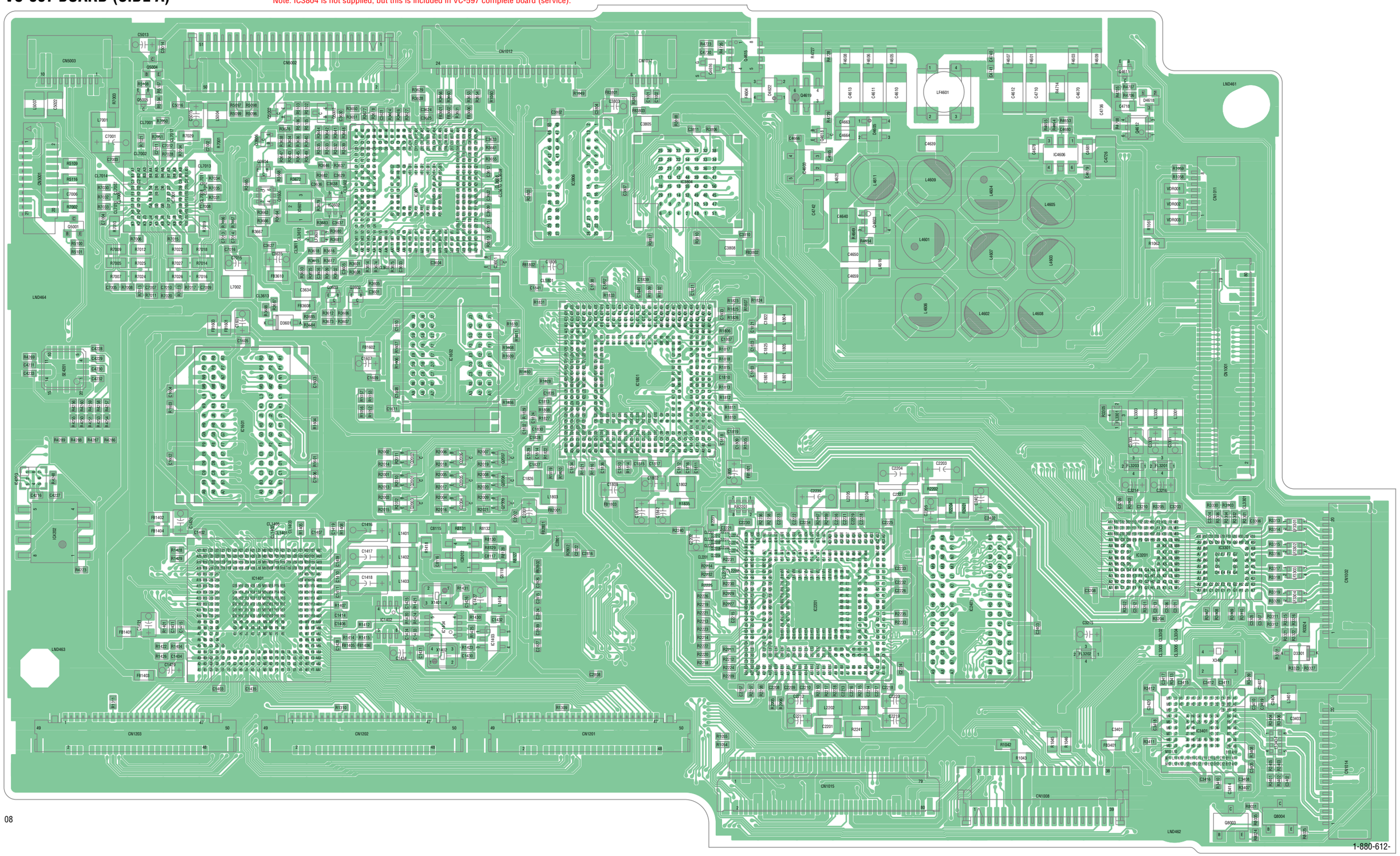
Note: CM-104 complete board and all mounted parts(including IC5001(CMOS IMAGER)) are not supplied, but they are included in PRISM DEVICE(service).

VC-597 (10 layers)

: Uses unleaded solder.

VC-597 BOARD (SIDE A)

Note: IC3804 is not supplied, but this is included in VC-597 complete board (service).



08

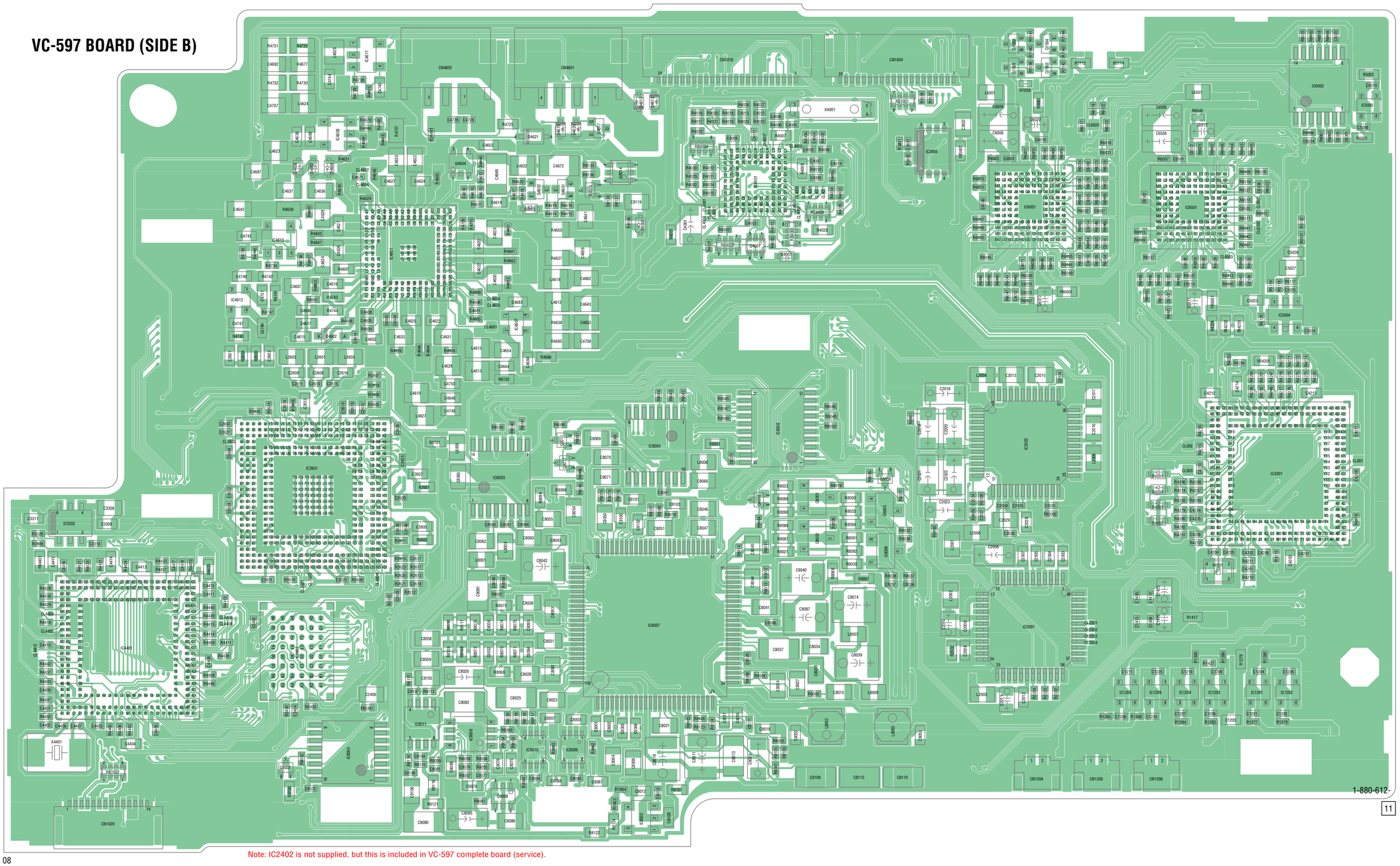
1-880-612-

11

VC-597 (10 layers)

: Uses unleaded solder.

VC-597 BOARD (SIDE B)

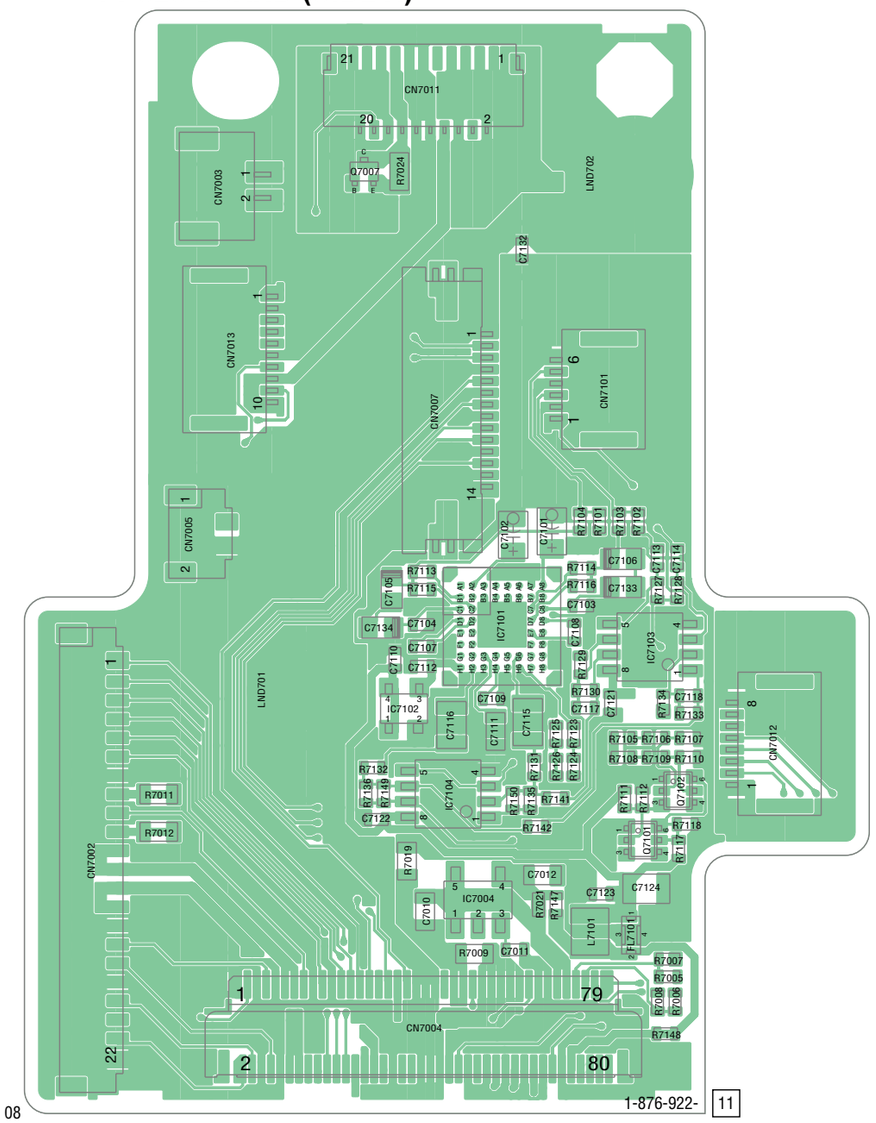


Note: IC2402 is not supplied, but this is included in VC-597 complete board (service).

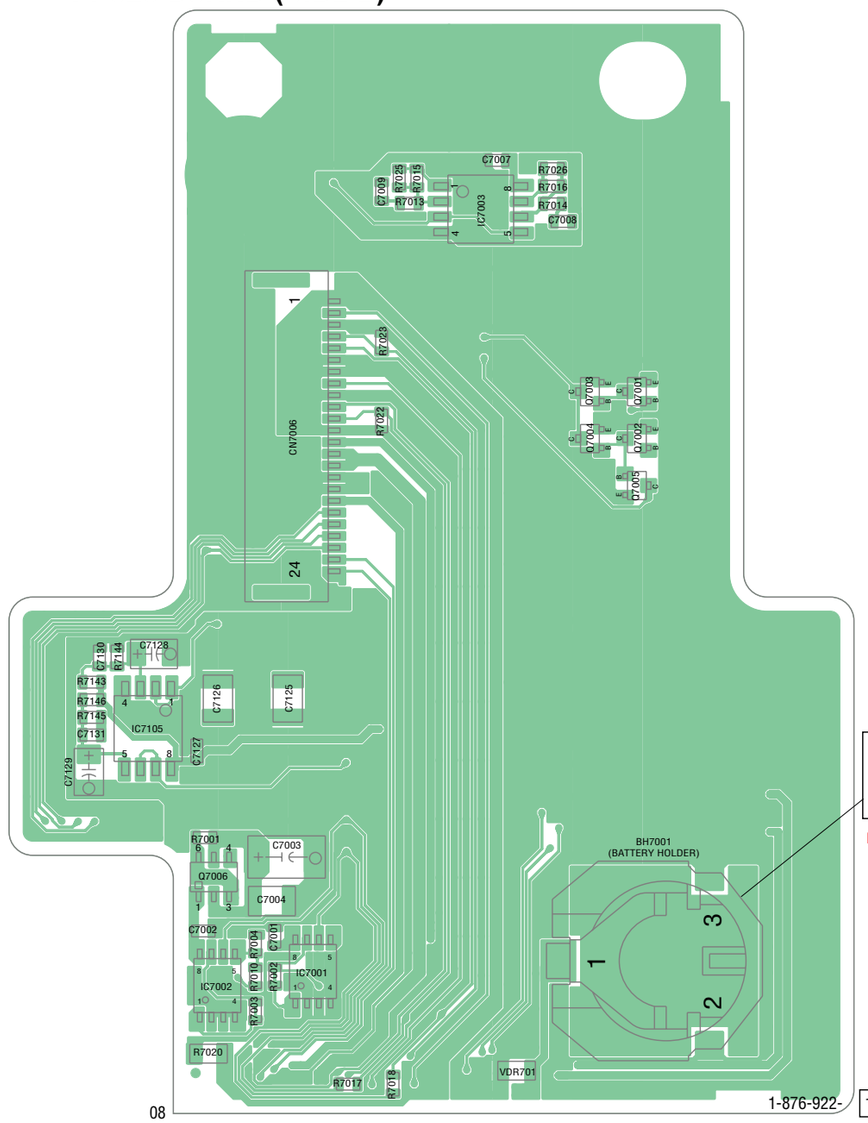
PI-029 (6 layers)

: Uses unleaded solder.

PI-029 BOARD (SIDE A)



PI-029 BOARD (SIDE B)



Note: BT7001 is not included in PI-029 complete board.

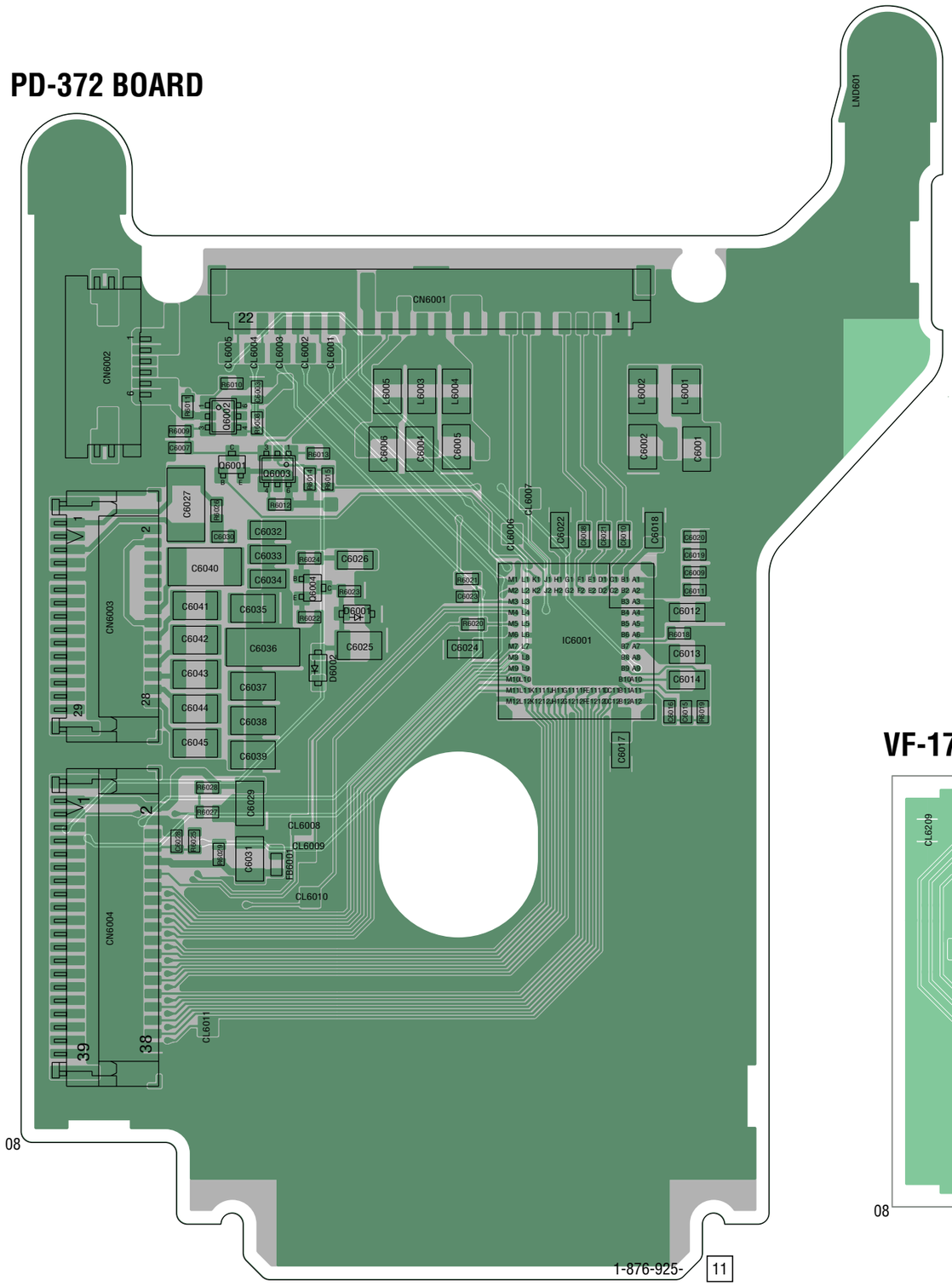
CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
Dispose of used batteries according to the instructions.

Note: Replace the battery holder (BH7001) together when replacing the lithium storage battery (BT7001) on the PI-029 board. (The battery holder removed once cannot be used again.)
When mounting these parts, mount new battery holder first and attach new lithium storage battery next.

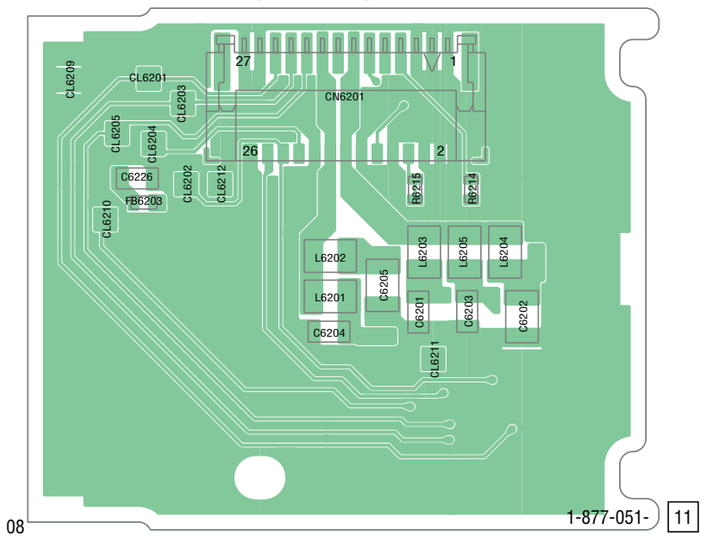
PD-372 (6 layers), VF-178 (6 layers)

: Uses unleaded solder.

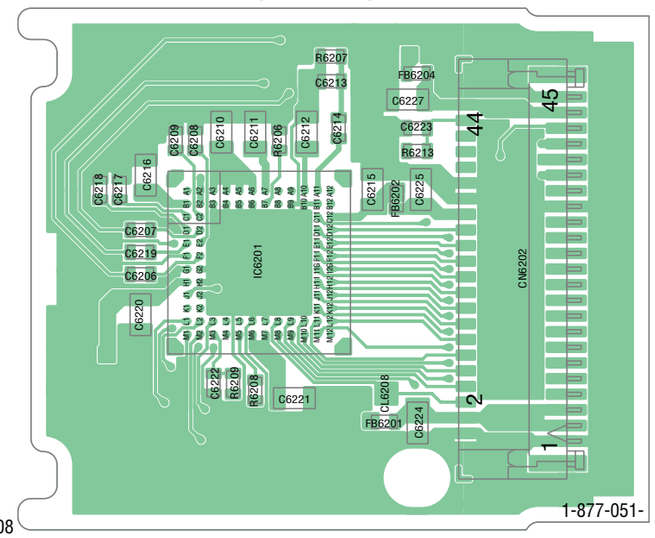
PD-372 BOARD



VF-178 BOARD (SIDE A)



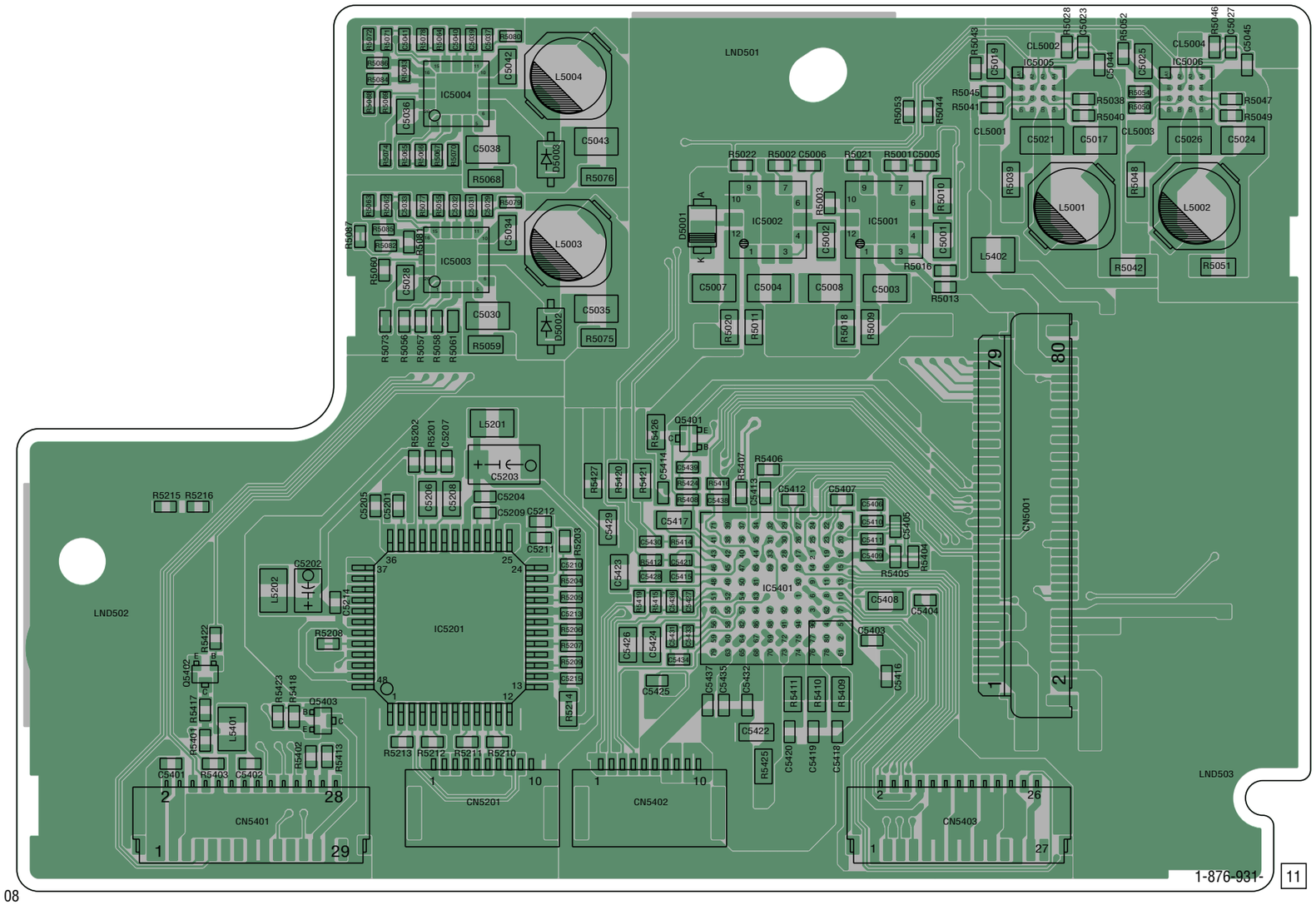
VF-178 BOARD (SIDE B)



MD-141 (6 layers)

: Uses unleaded solder.

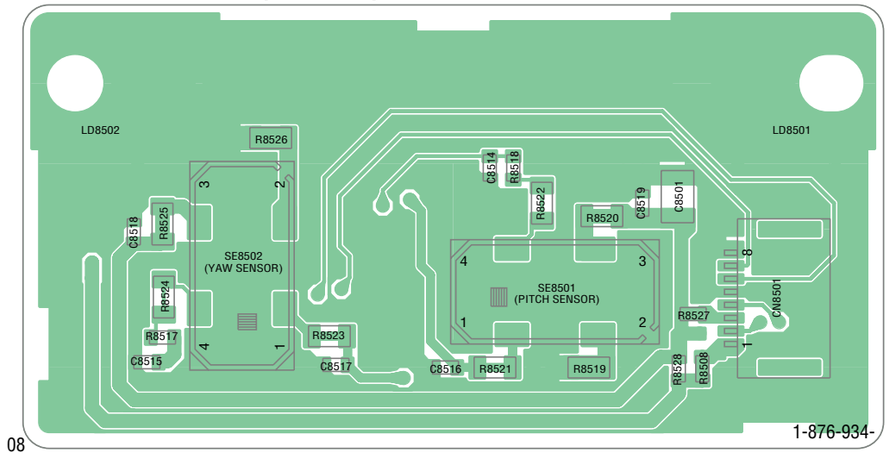
MD-141 BOARD



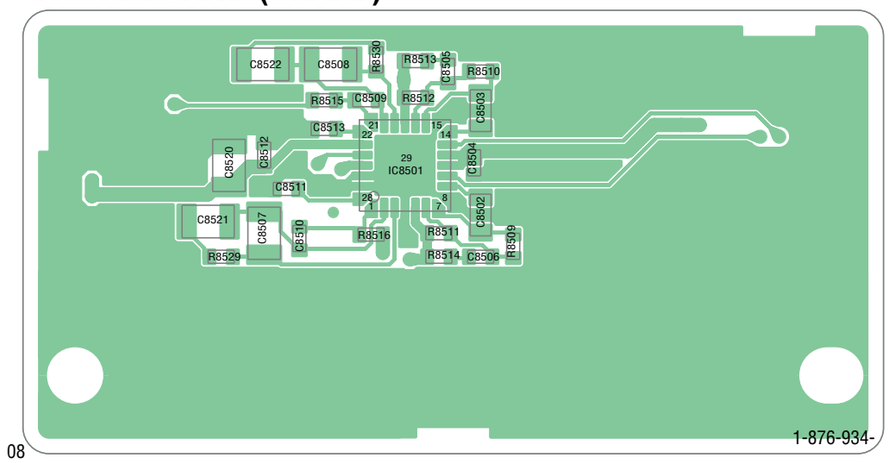
GY-014 (2 layers), CK-204 (2 layers)

: Uses unleaded solder.

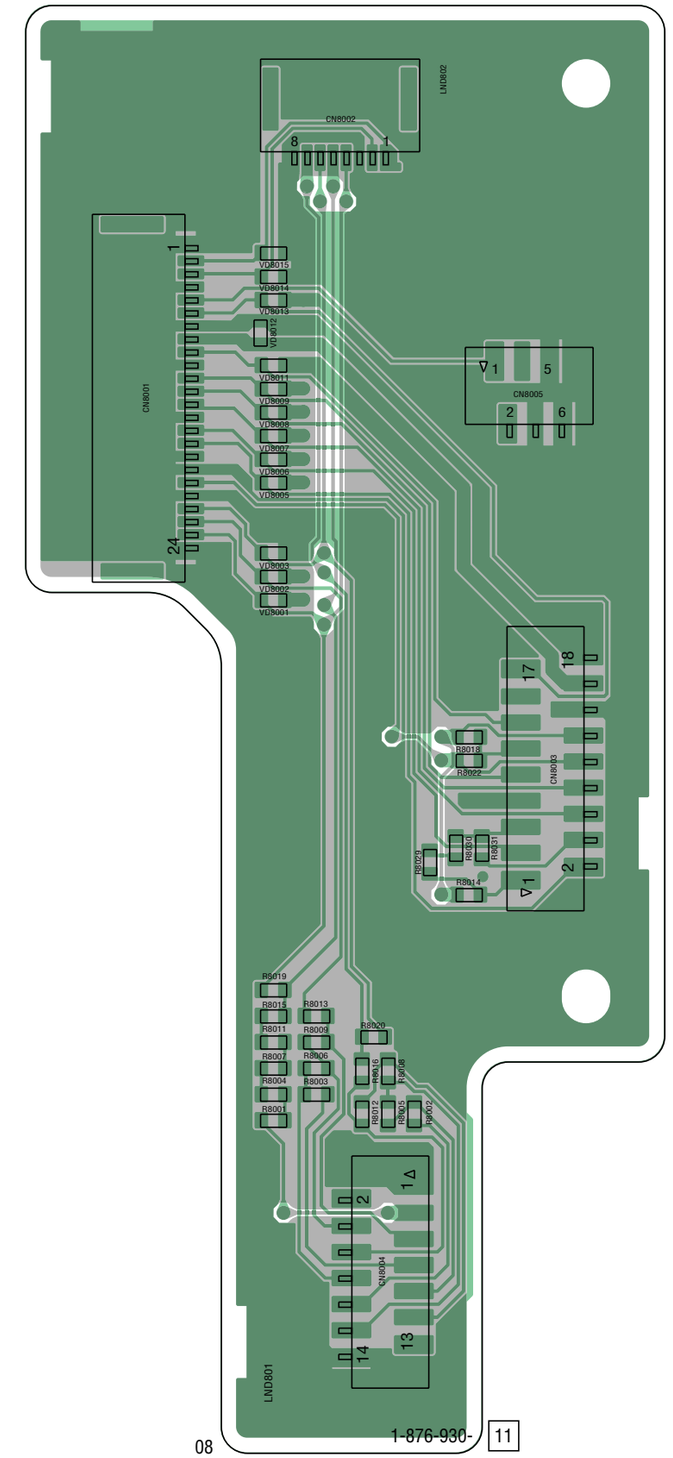
GY-014 BOARD (SIDE A)



GY-014 BOARD (SIDE B)



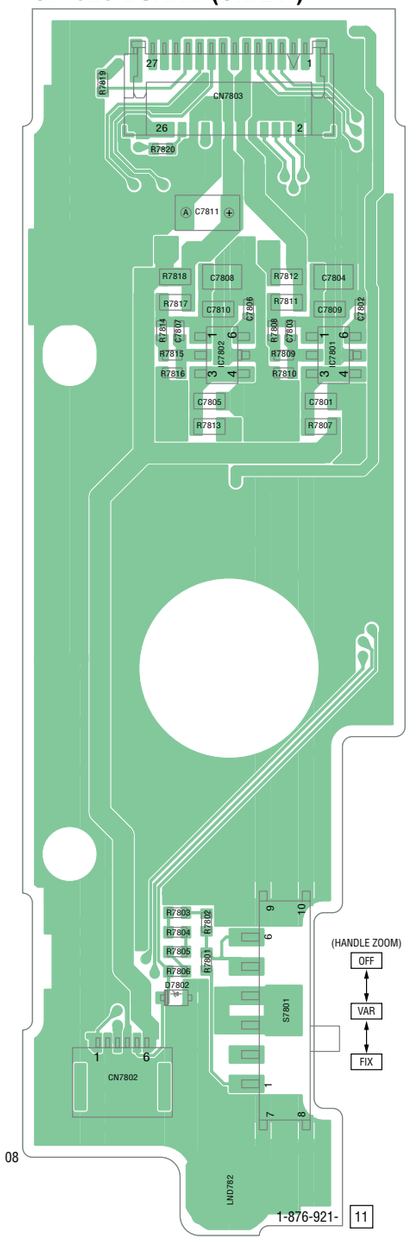
CK-204 BOARD



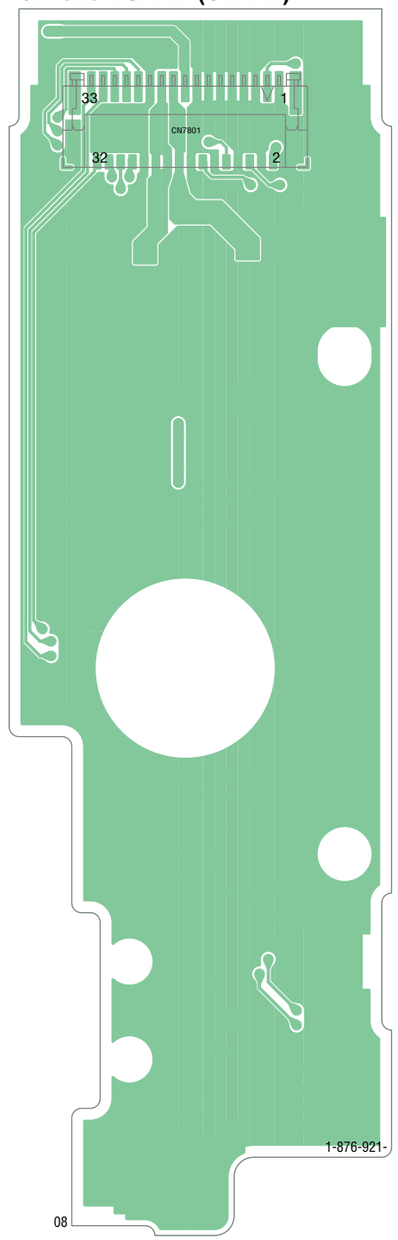
GP-025 (2 layers), HP-153 (2 layers), JK-376 (2 layers)

: Uses unleaded solder.

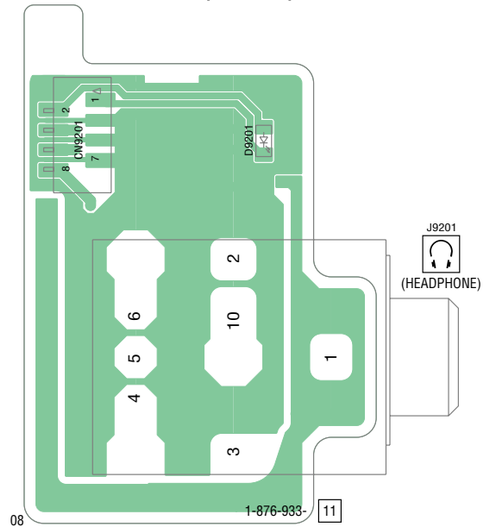
GP-025 BOARD (SIDE A)



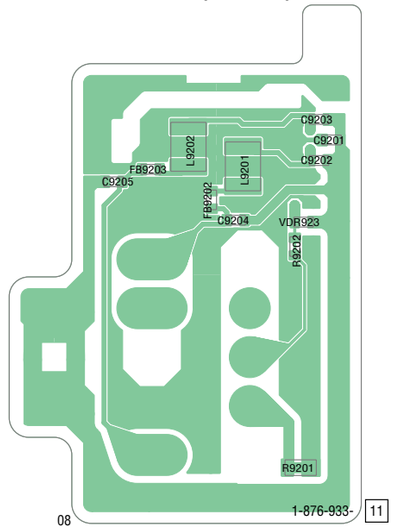
GP-025 BOARD (SIDE B)



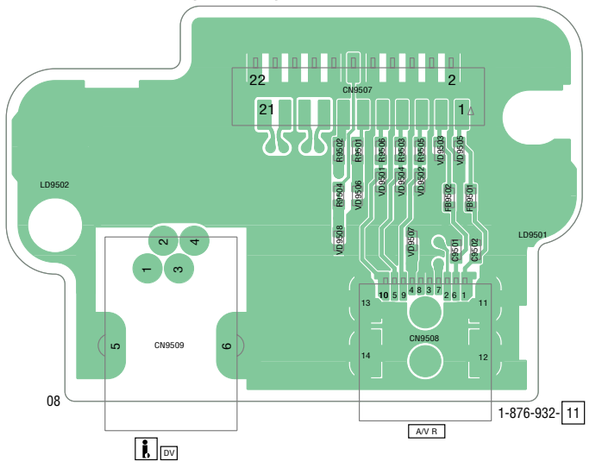
HP-153 BOARD (SIDE A)



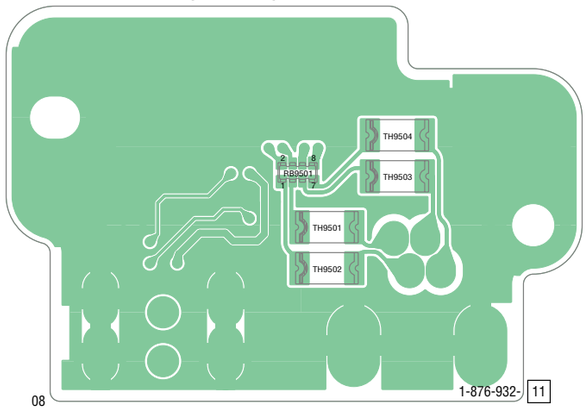
HP-153 BOARD (SIDE B)



JK-376 BOARD (SIDE A)



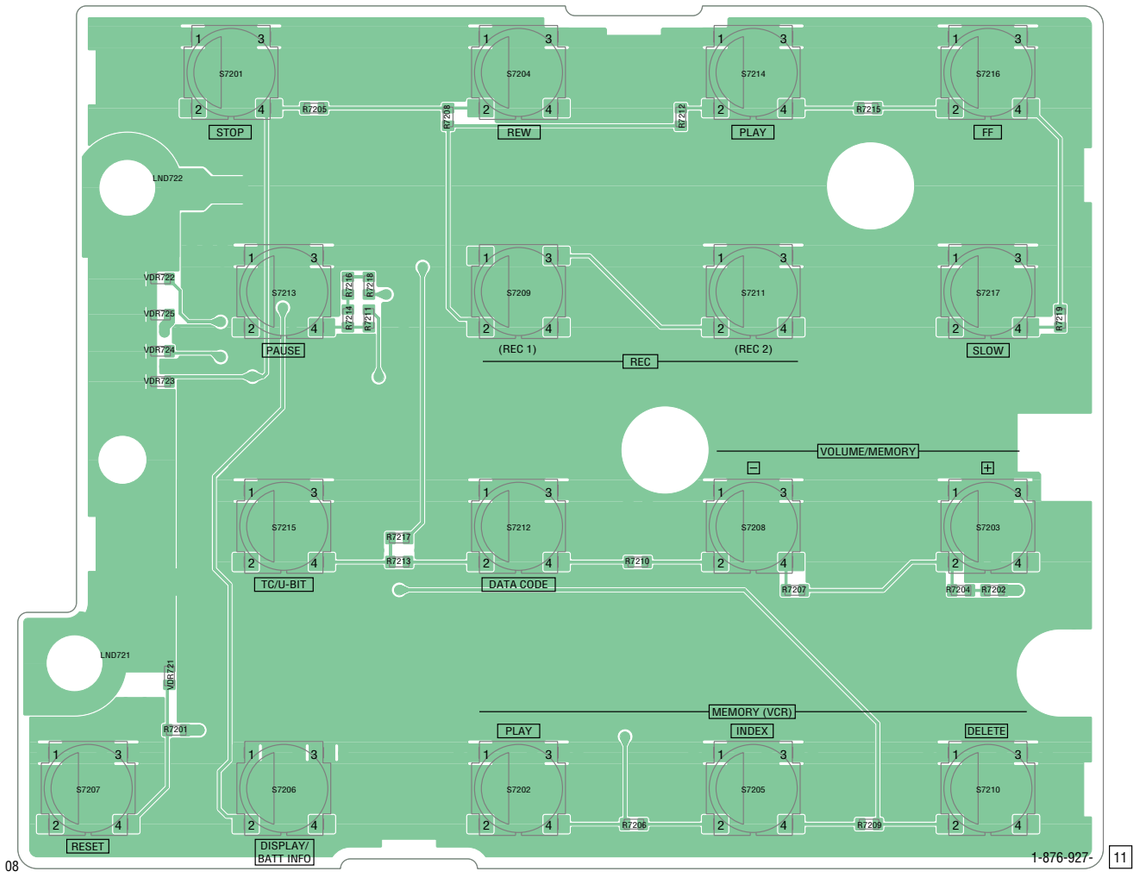
JK-376 BOARD (SIDE B)



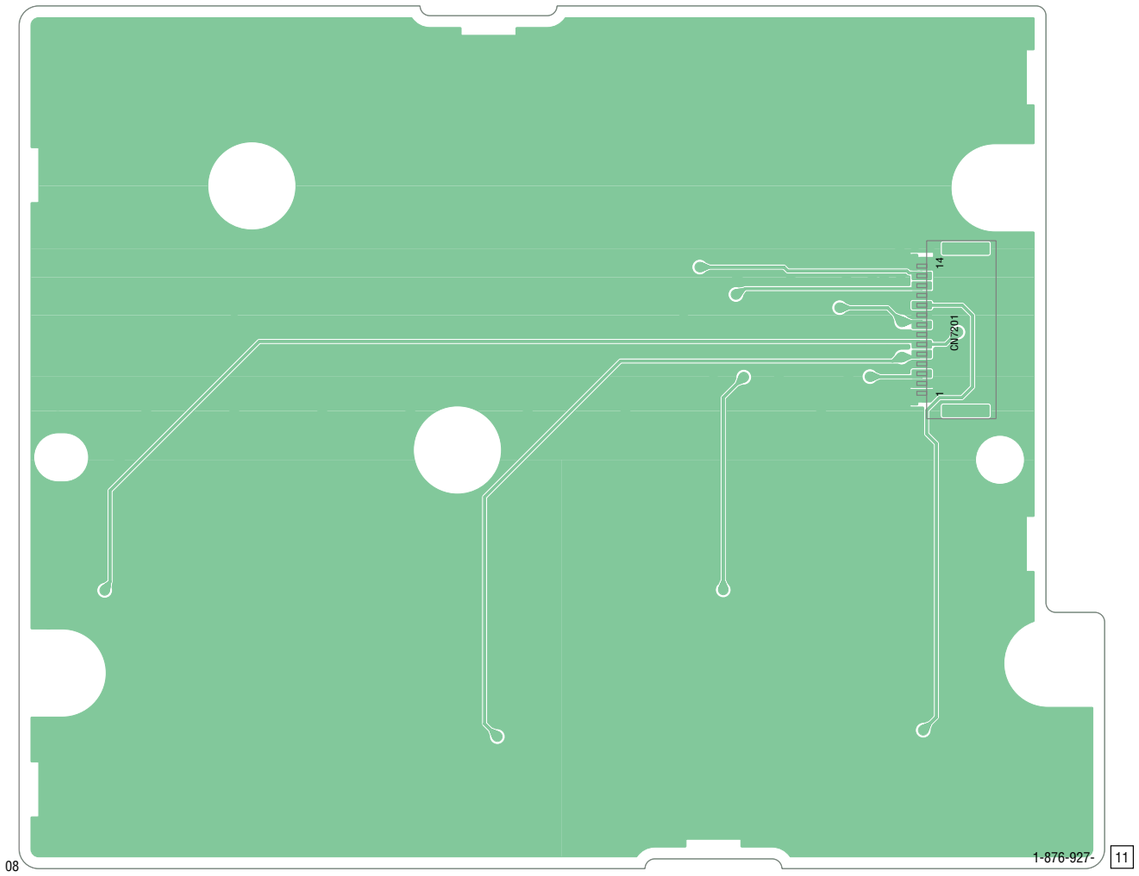
KY-105 (2 layers), MA-454 (2 layers)

: Uses unleaded solder.

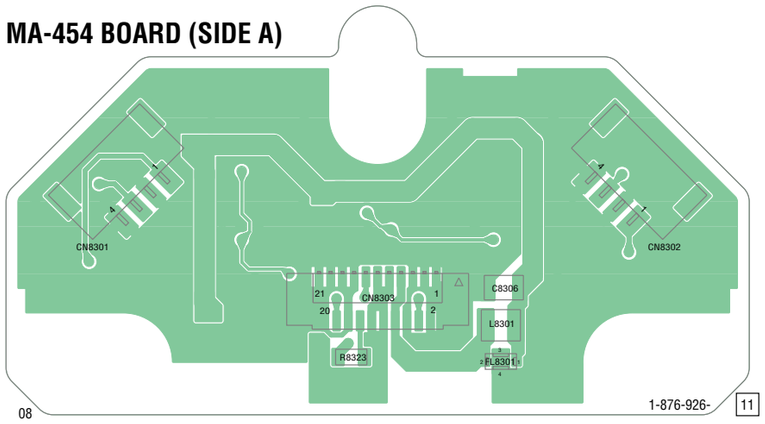
KY-105 BOARD (SIDE A)



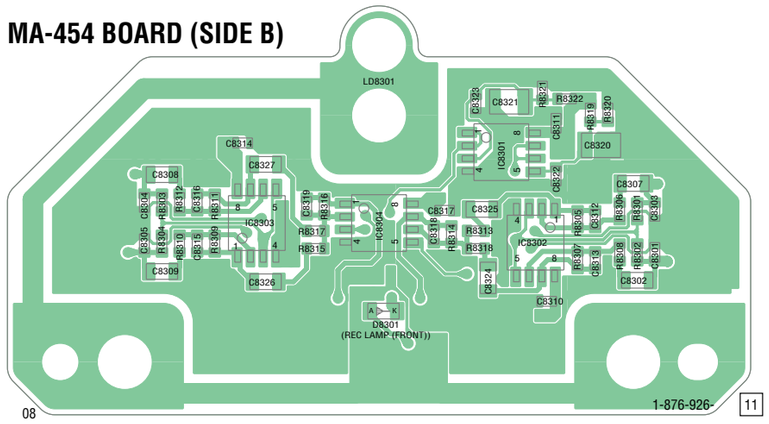
KY-105 BOARD (SIDE B)



MA-454 BOARD (SIDE A)



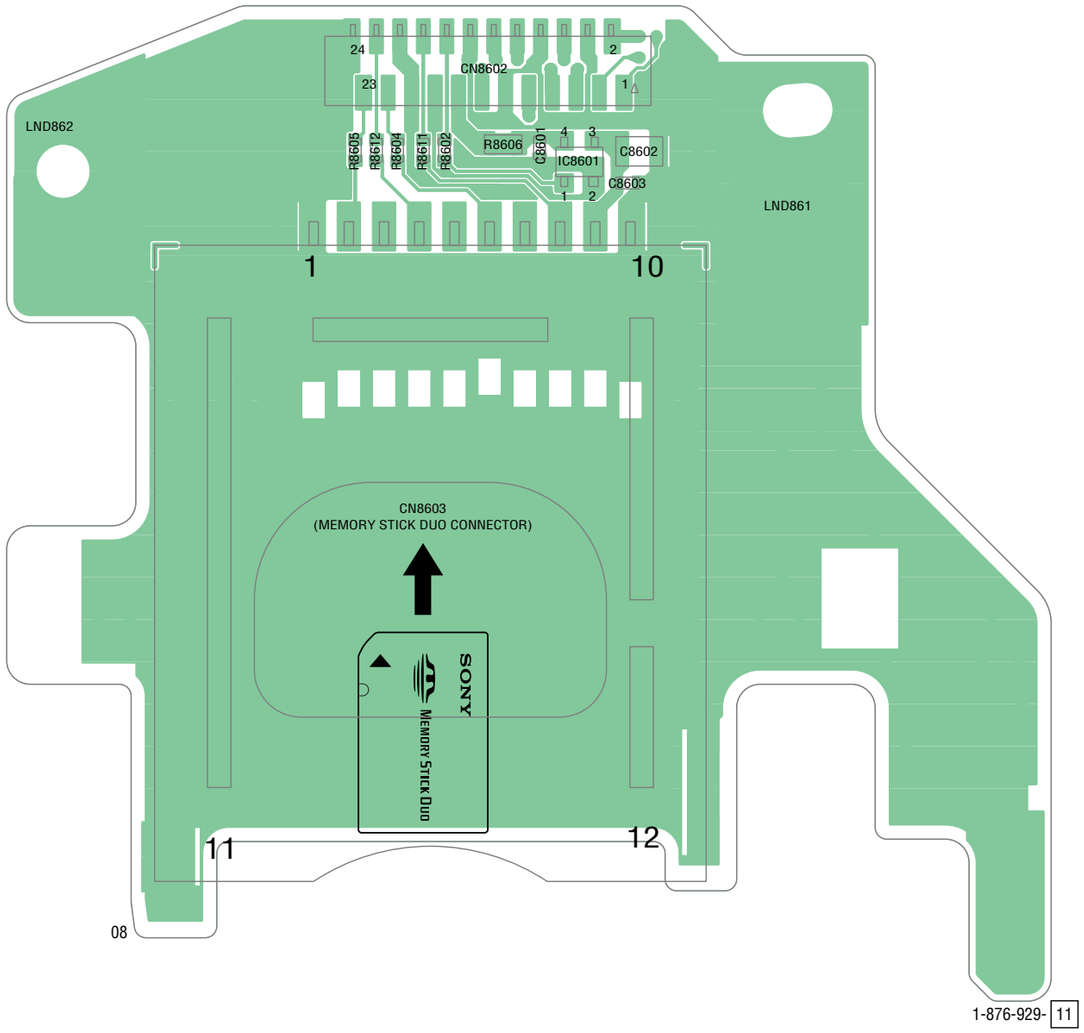
MA-454 BOARD (SIDE B)



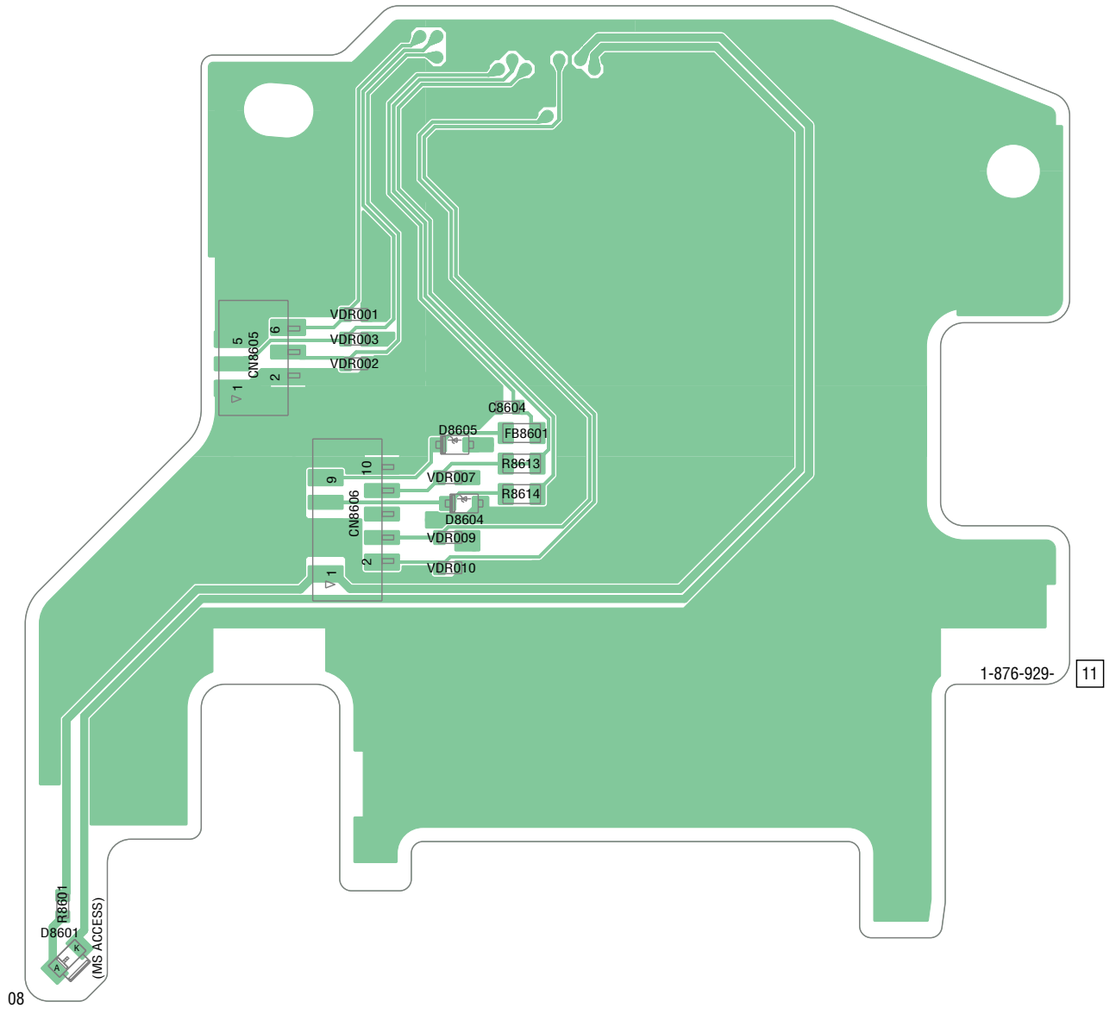
MS-405 (2 layers)

: Uses unleaded solder.

MS-405 BOARD (SIDE A)



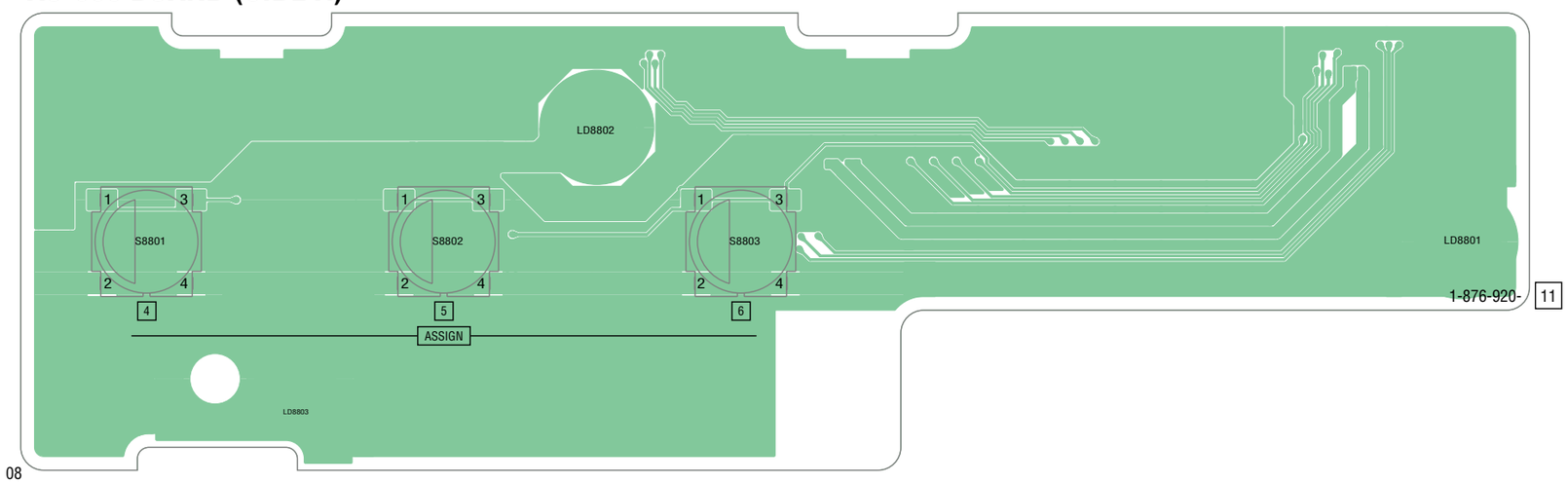
MS-405 BOARD (SIDE B)



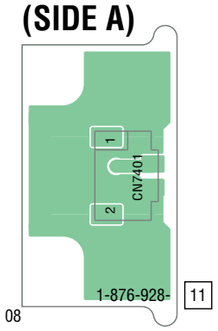
AS-060 (6 layers), HT-002 (2 layers)

: Uses unleaded solder.

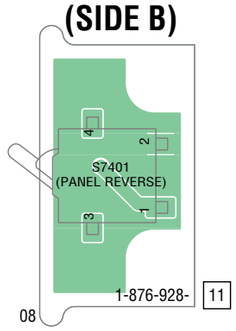
AS-060 BOARD (SIDE A)



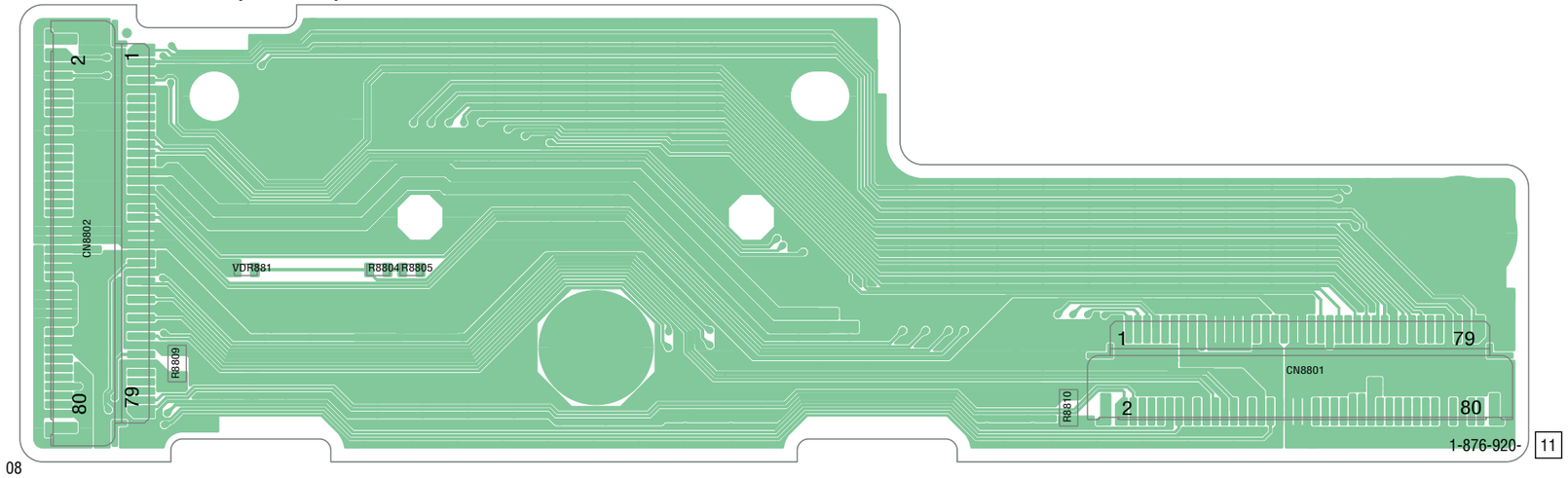
HT-002 BOARD (SIDE A)



HT-002 BOARD (SIDE B)



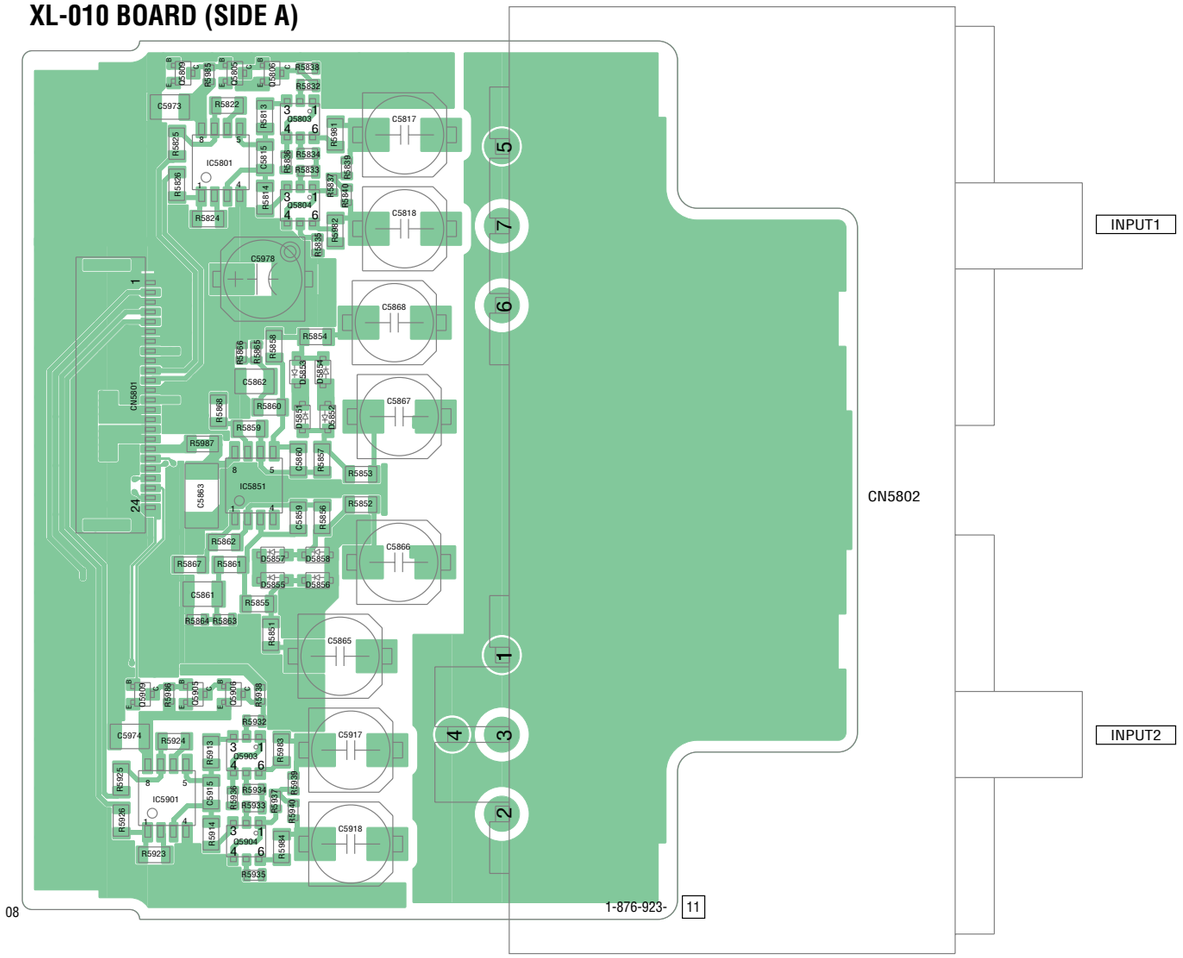
AS-060 BOARD (SIDE B)



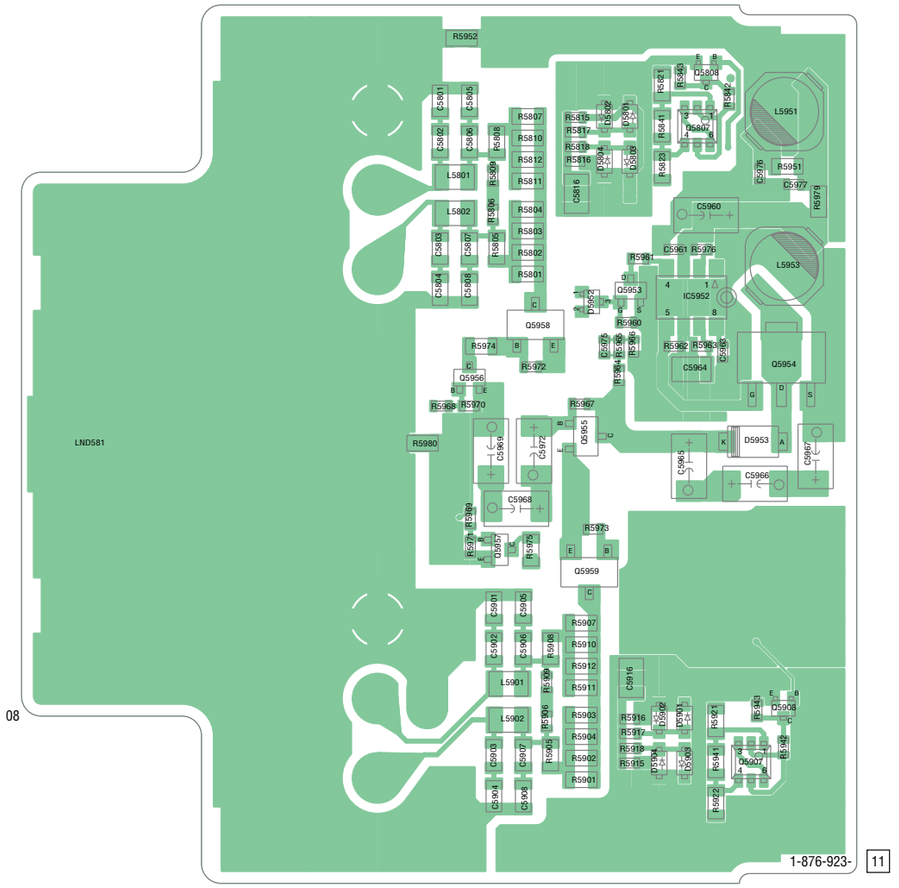
XL-010 (6 layers)

: Uses unleaded solder.

XL-010 BOARD (SIDE A)



XL-010 BOARD (SIDE B)

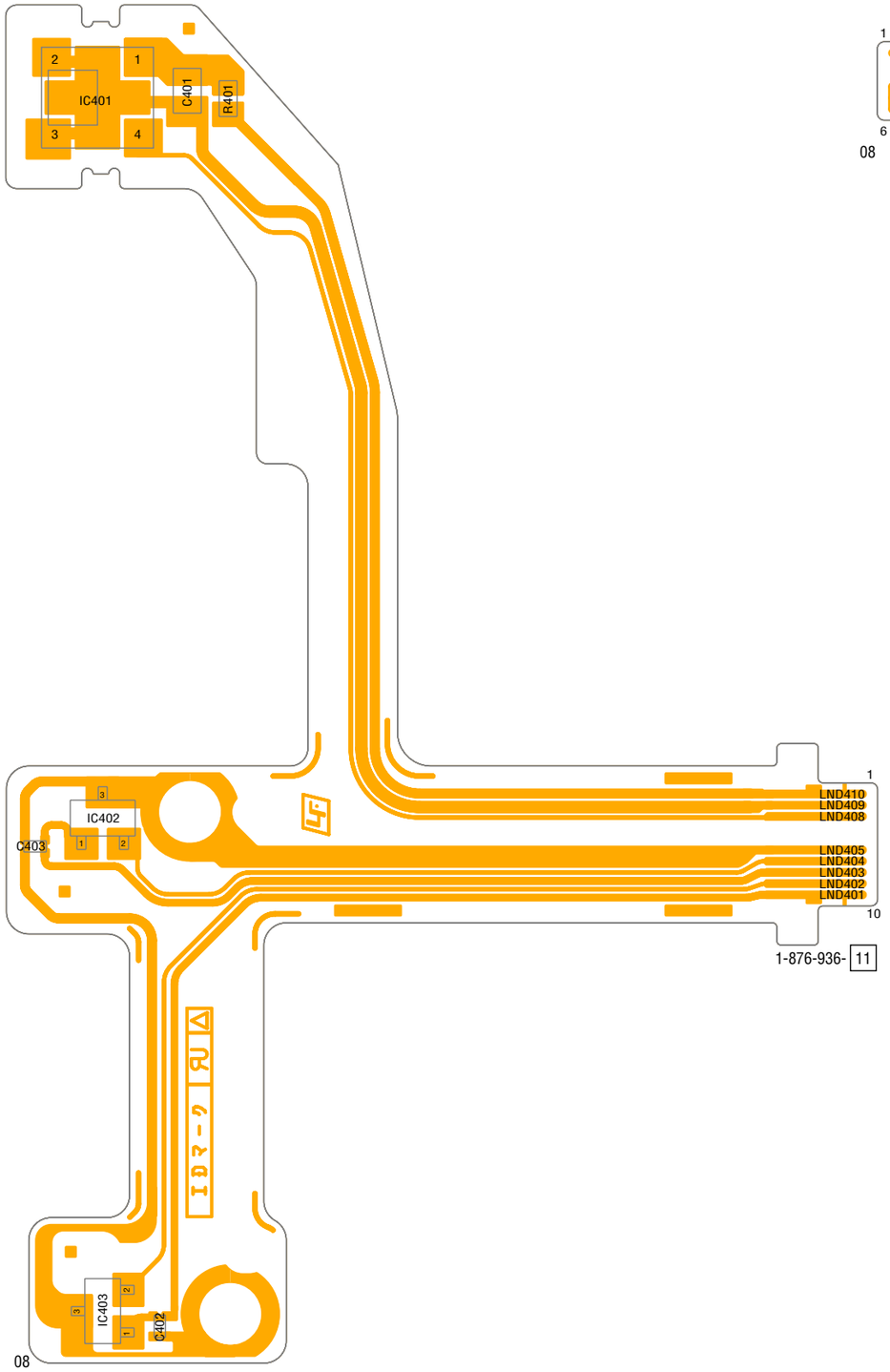


Note: IC5952 is not supplied, but this is included in XL-010 complete board.

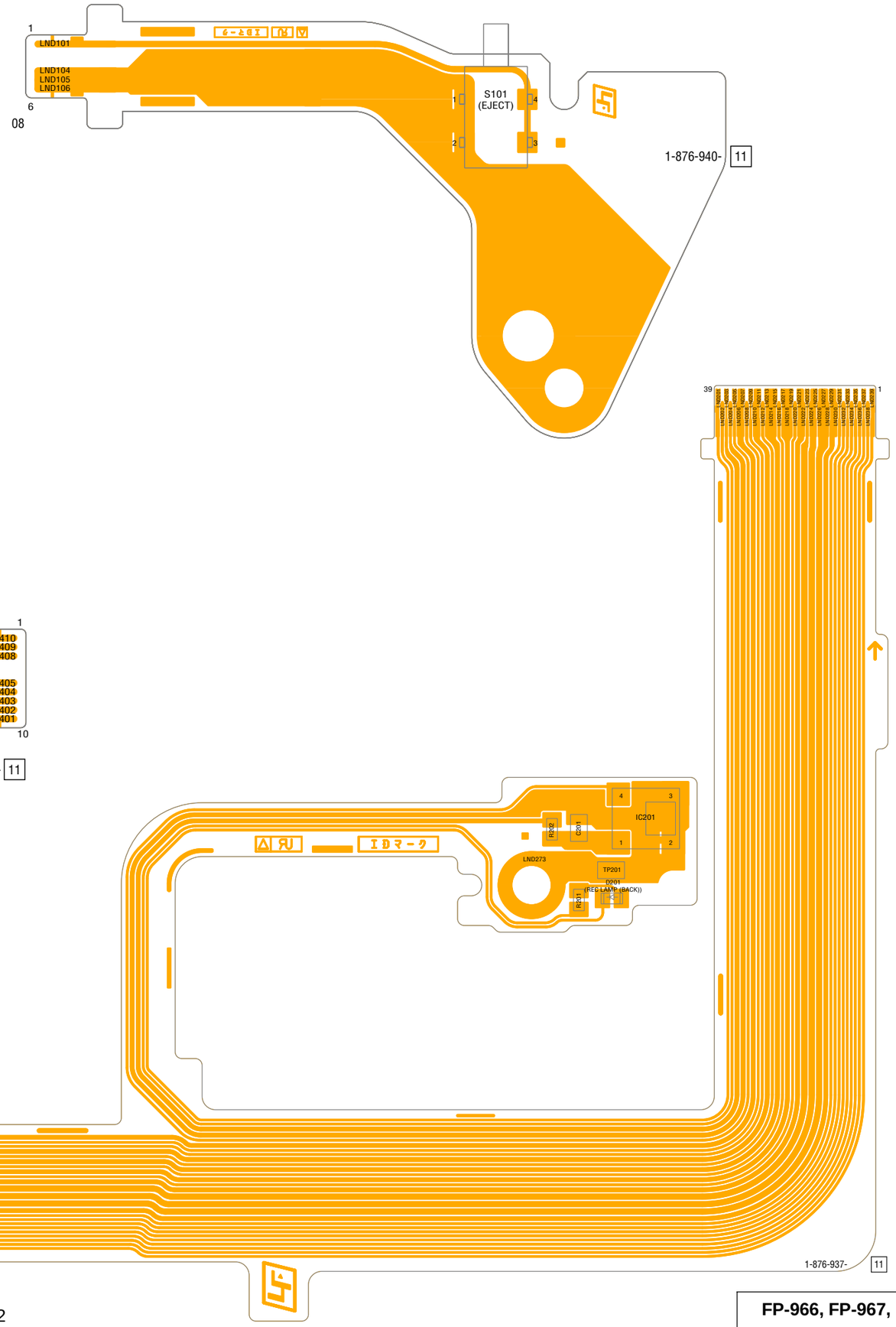
FP-966 (1 layer), FP-967 (1 layer), FP-969 (1 layer)

: Uses unleaded solder.

FP-966 FLEXIBLE BOARD



FP-969 FLEXIBLE BOARD

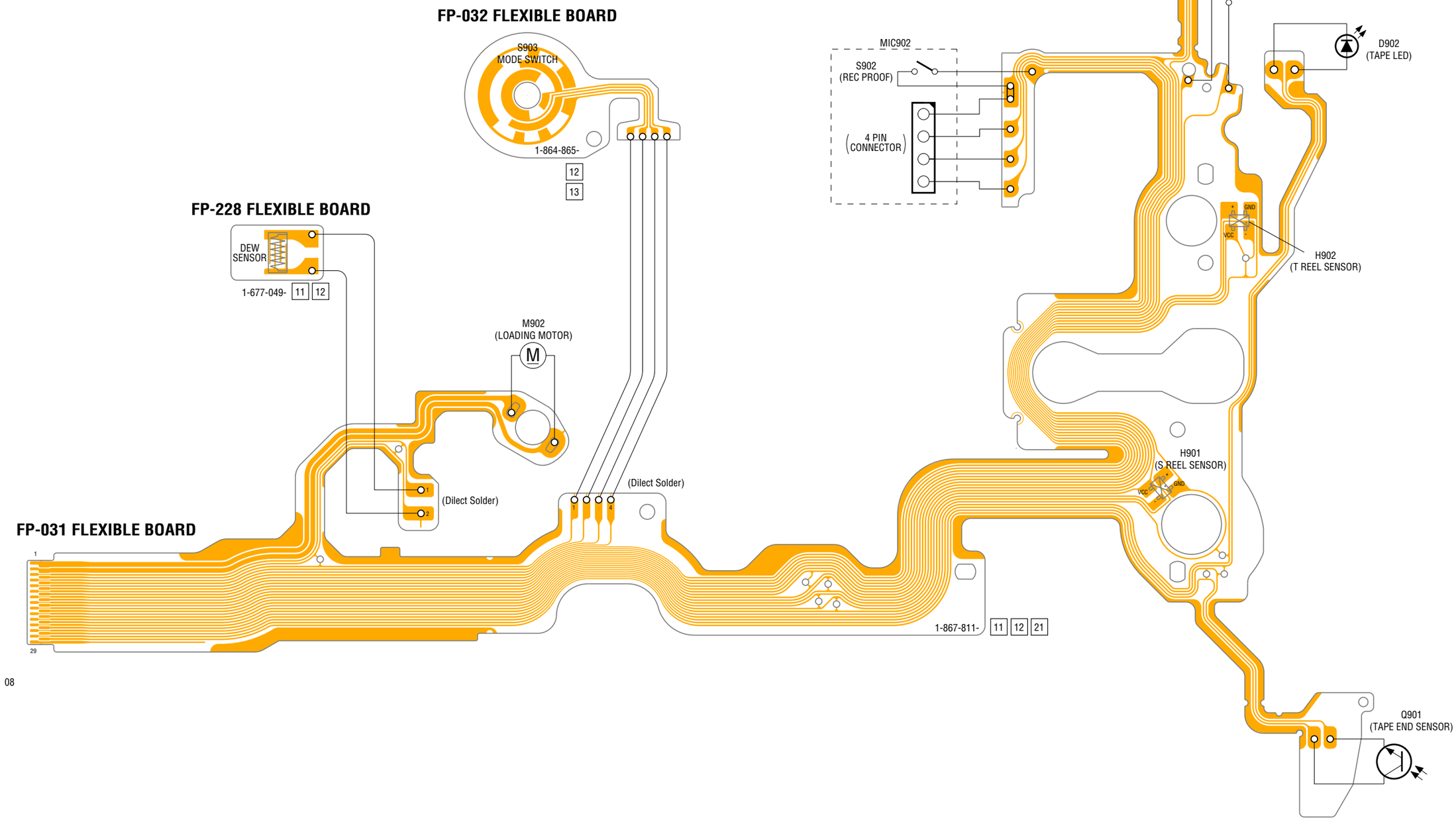


FP-967 FLEXIBLE BOARD

FP-031 (1 layer), FP-032 (1 layer), FP-228 (1 layer)

: Uses unleaded solder.

Note: The FP-031 and FP-032 are supplied as the assembled part of
the MD (N220) sub ass'y (S) A by attaching them with the adhesive agent.
These parts are not separately supplied because assembling of
these parts requires high accuracy.



08

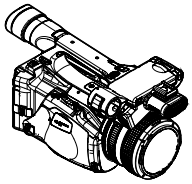
NOTE

5. REPAIR PARTS LIST (1/2)

TO (2/2)

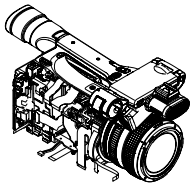
NOTE: Characters A to Z of the electrical parts list indicate location of exploded views in which the desired part is shown.

Link EXPLODED VIEWS



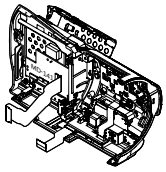
A

OVERALL SECTION-1



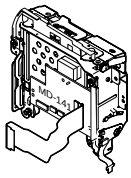
B

OVERALL SECTION-2



C

CABINET (R) SECTION

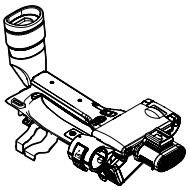


D

MD SECTION

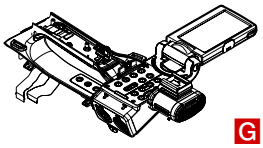
E

LENS SECTION



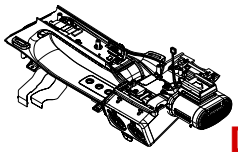
F

HANDLE SECTION-1



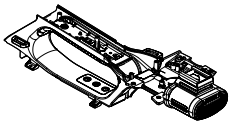
G

HANDLE SECTION-2



H

HANDLE SECTION-3

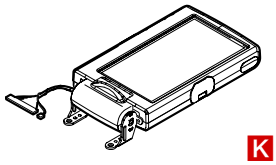


I

HANDLE SECTION-4

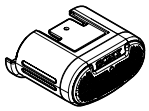
J

EVF SECTION



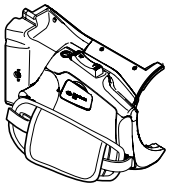
K

LCD SECTION



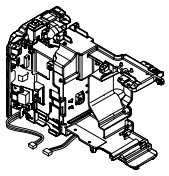
L

MICROPHONE SECTION



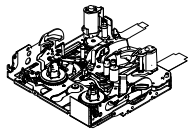
M

CABINET (L) SECTION



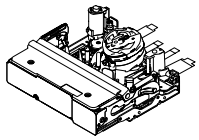
N

BT PANEL SECTION



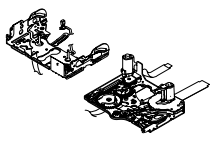
O

MECHANISM DECK SECITON



P

LS/MECHANICAL CHASSIS BLOCK ASSEMBLY-1



Q

LS/MECHANICAL CHASSIS BLOCK ASSEMBLY-2

NOTE

5. REPAIR PARTS LIST (2/2)

TO (1/2)

NOTE: Characters A to Z of the electrical parts list indicate location of exploded views in which the desired part is shown.

Link

ELECTRICAL PARTS LIST

ACCESSORIES

AS-060 BOARD I	FP-971 FLEXIBLE BOARD M	JK-376 BOARD N
CK-204 BOARD C	FP-973 FLEXIBLE BOARD A	KY-105 BOARD G
CM-097 BOARD E	FP-974 FLEXIBLE BOARD J	MA-454 BOARD L
CM-104 BOARD E	FP-975 FLEXIBLE BOARD L	MD-141 BOARD D
FP-031 FLEXIBLE BOARD O	FP-981 FLEXIBLE BOARD I	MS-405 BOARD M
FP-032 FLEXIBLE BOARD O	FP-982 FLEXIBLE BOARD I	PD-372 BOARD K
FP-228 FLEXIBLE BOARD Q	FP-983 FLEXIBLE BOARD D	PI-029 BOARD G
FP-776 FLEXIBLE BOARD J	GP-025 BOARD H	VC-597 BOARD A
FP-966 FLEXIBLE BOARD G	GY-014 BOARD E	VF-178 BOARD J
FP-967 FLEXIBLE BOARD H	HP-153 BOARD N	XL-010 BOARD H
FP-969 FLEXIBLE BOARD D	HT-002 BOARD K	

5. REPAIR PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- CAPACITORS:
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

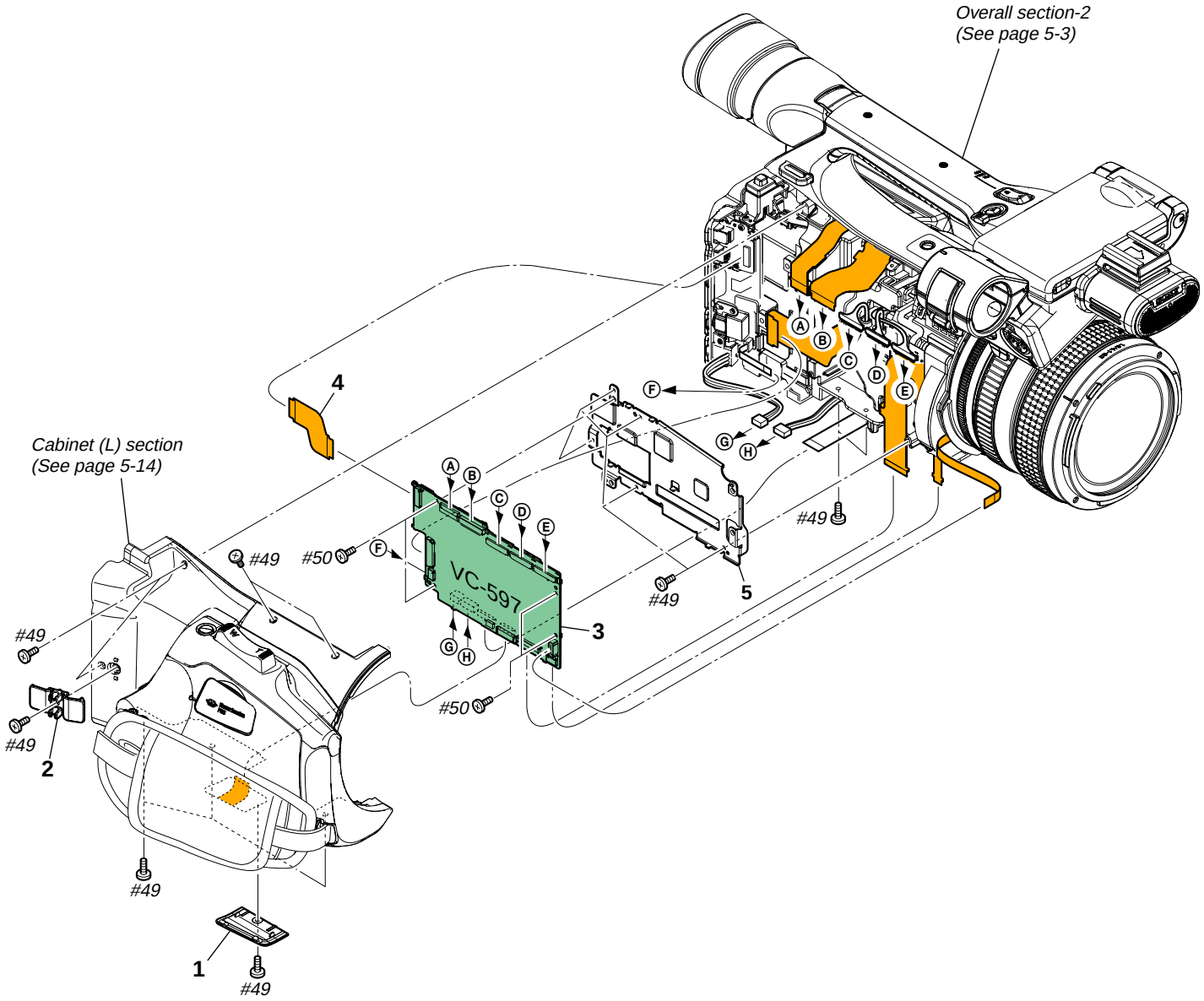
- Abbreviation
  CH : Chinese model

5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

DISASSEMBLY HARDWARE LIST

5-1-1. OVERALL SECTION-1

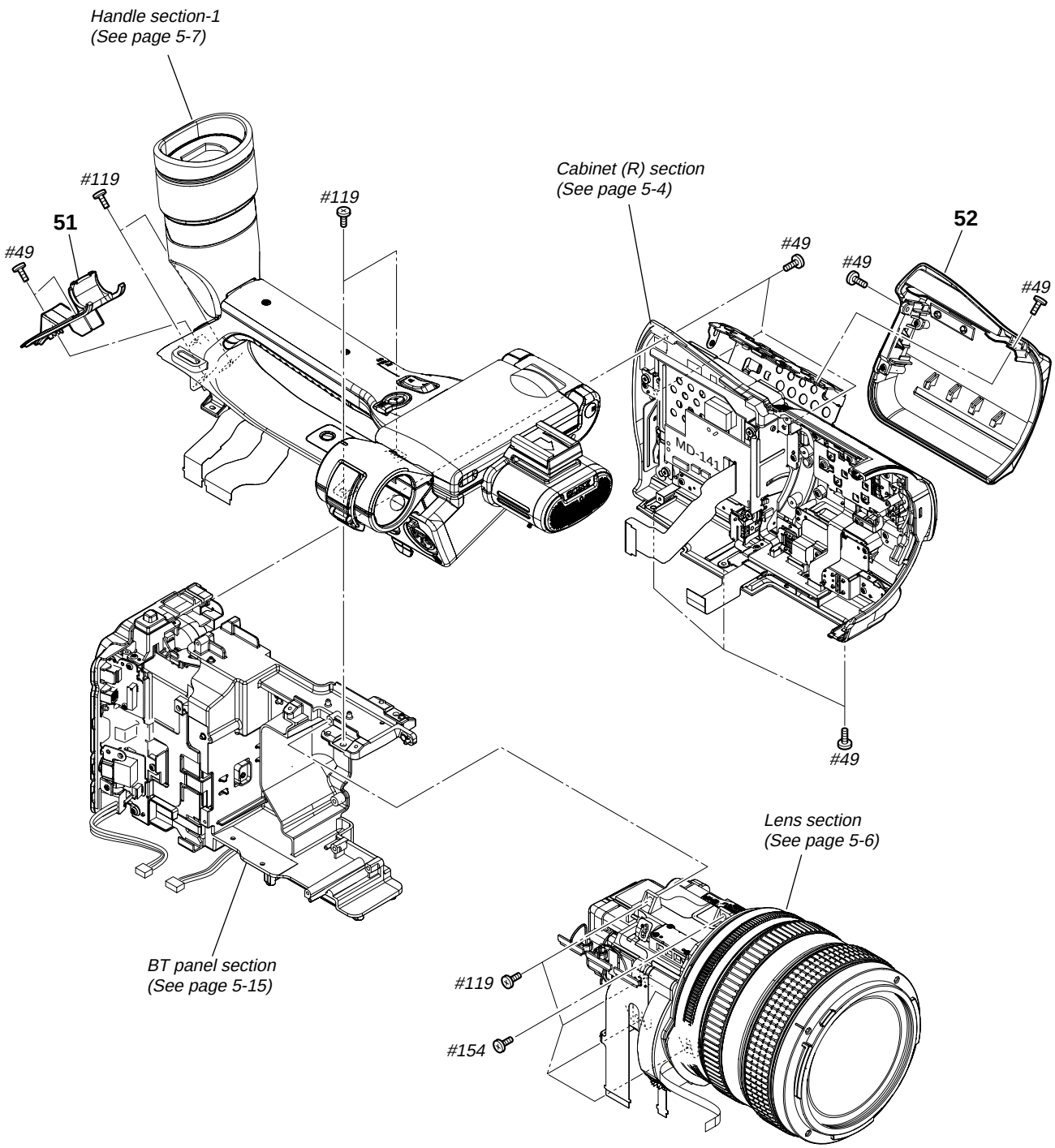


Ref. No.	Part No.	Description
1	4-119-235-11	LID, CPC
2	4-131-320-11	CLAMP, AV
3	A-1739-733-A	VC-597 BOARD, COMPLETE (SERVICE)
4	1-876-944-11	FP-973 FLEXIBLE BOARD
5	4-119-236-01	FRAME, MAIN

Ref. No.	Part No.	Description
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)

5-1-2. OVERALL SECTION-2

DISASSEMBLY HARDWARE LIST



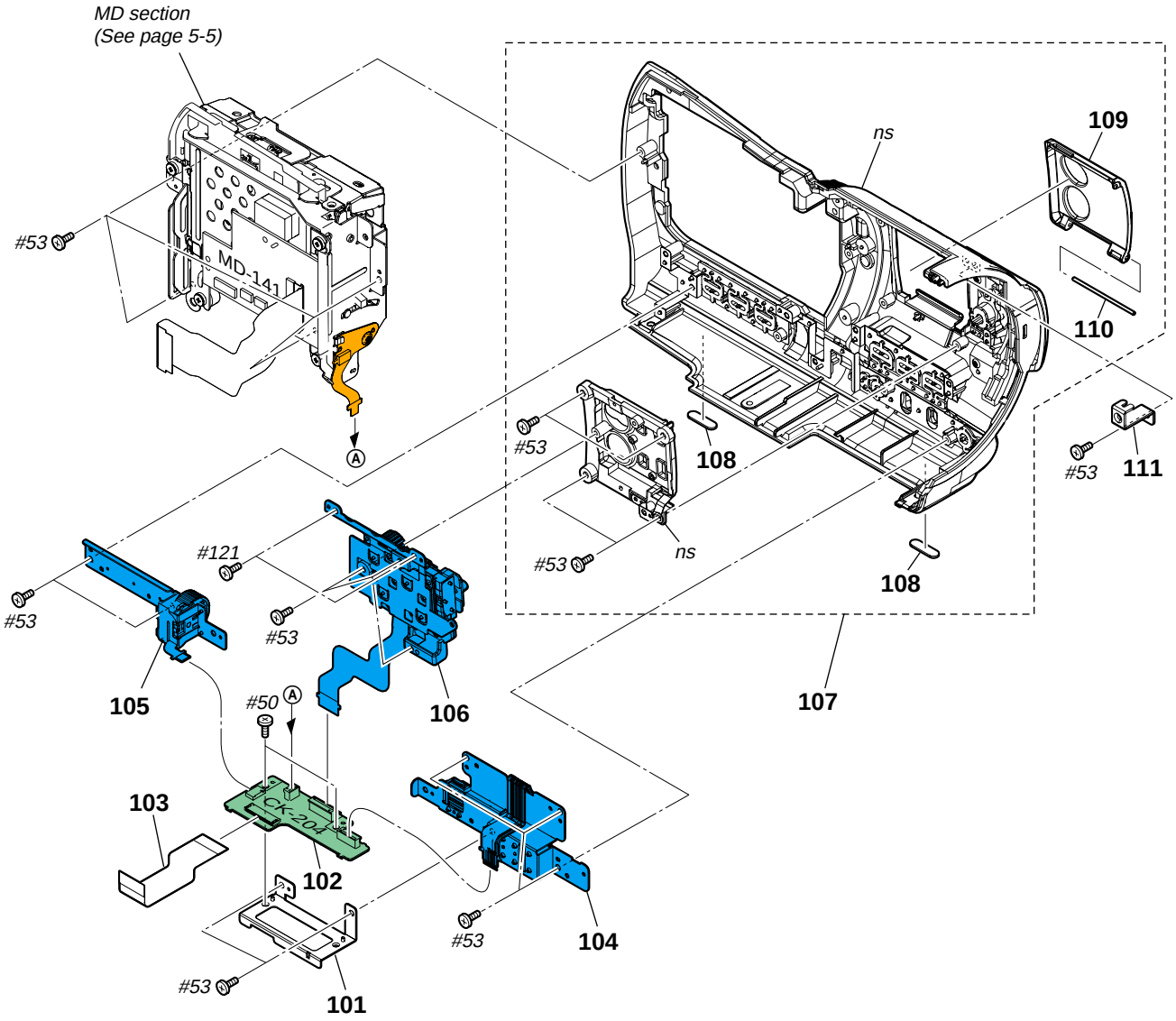
Ref. No.	Part No.	Description
51	X-2320-882-1	COVER (93000) ASSY, (REAR)
52	X-2514-873-1	LID (93501) ASSY, CS

Ref. No.	Part No.	Description
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#119	7-627-556-58	SCREW +P 2.6X5 (Black)
#154	7-627-556-97	SCREW, PRECISION +P2.6X8 TYPE 1 (Silver)

5-1-3. CABINET (R) SECTION

ns: not supplied

DISASSEMBLY HARDWARE LIST

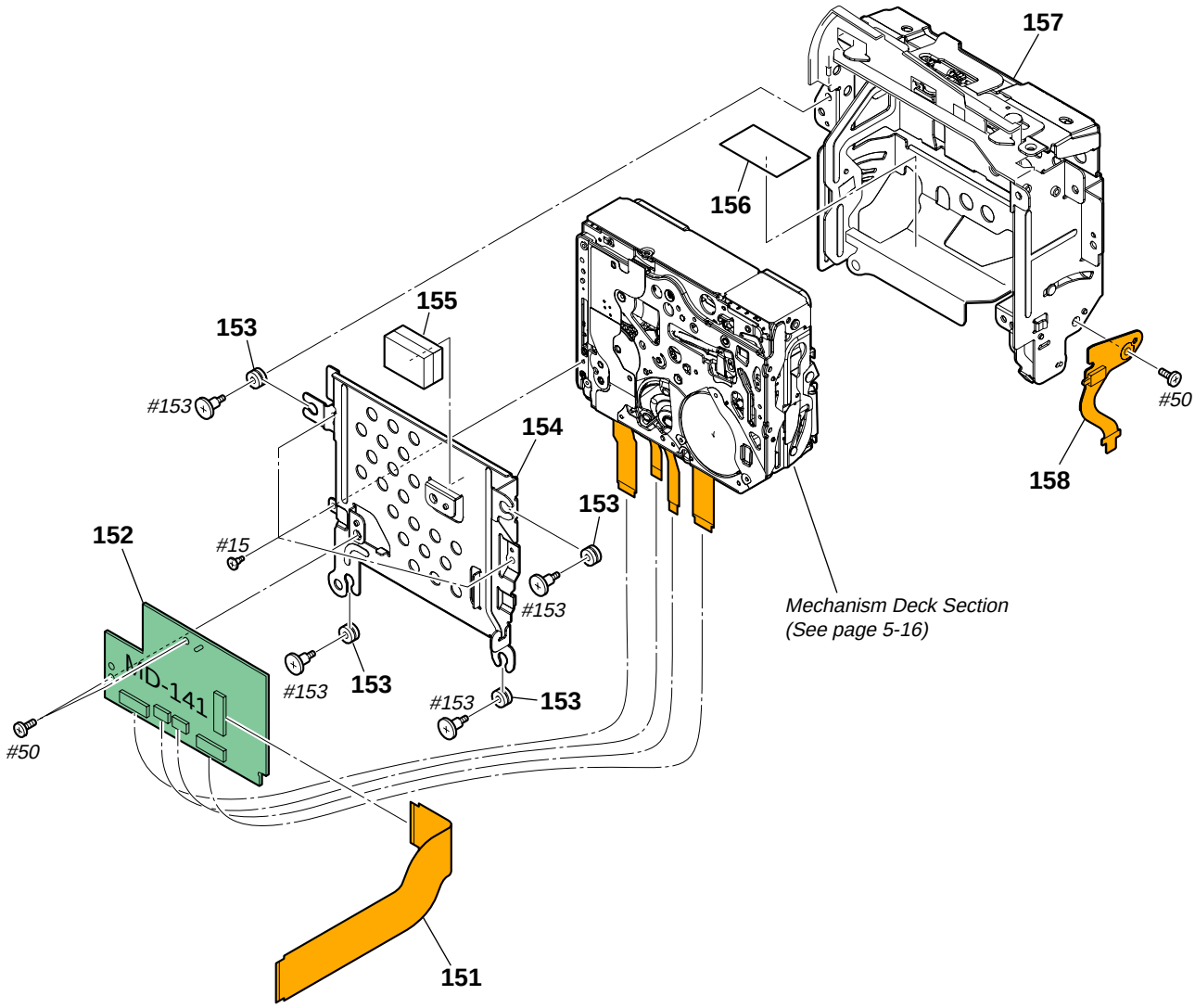


Ref. No.	Part No.	Description
* 101	4-119-384-01	PLATE, CK FIXED
102	A-1599-835-A	CK-204 BOARD, COMPLETE
103	1-836-005-11	FLEXIBLE FLAT CABLE (FFC-171)
104	1-480-866-11	SWITCH BLOCK, CONTROL (CF24000)
105	1-480-867-11	SWITCH BLOCK, CONTROL (KP24000)
106	1-480-864-11	SWITCH BLOCK, CONTROL (AU93000)
107	X-2514-876-1	CABINET (R(93501) ASSY
108	2-178-805-01	FOOT, RUBBER

Ref. No.	Part No.	Description
109	4-119-851-01	LID (93000), AL
* 110	4-119-404-01	SHAFT, AL
* 111	4-119-383-01	PLATE, CABINET (R) FIXED
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)
#121	3-080-205-11	SCREW, TAPPING, P2 (Silver)

5-1-4. MD SECTION

DISASSEMBLY HARDWARE LIST

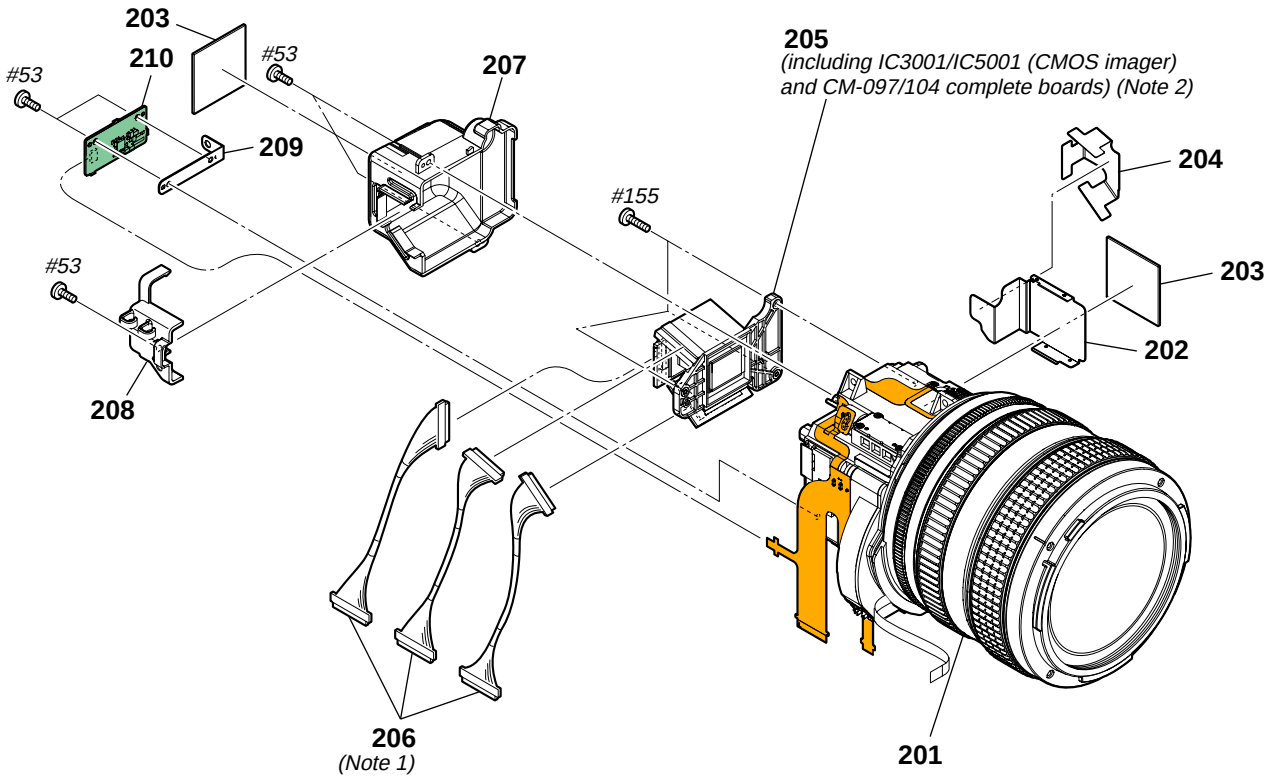


Ref. No.	Part No.	Description
151	1-876-954-11	FP-983 FLEXIBLE BOARD
152	A-1616-572-A	MD-141 BOARD, COMPLETE
153	3-059-809-01	DAMPER, MD
154	X-2320-872-1	FRAME ASSY, MD
* 155	2-673-770-01	GASKET (D)
* 156	4-121-964-01	SHEET, MD INSULATING

Ref. No.	Part No.	Description
157	X-2320-867-1	FRAME ASSY, CS
158	A-1599-833-A	FP-969 FLEXIBLE BOARD, COMPLETE
#15	3-062-214-01	SCREW (M1.4X1.5) (Silver)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#153	3-059-718-01	SCREW (M1.4X1.5) (Silver)

5-1-5. LENS SECTION

HARDWARE LIST



Note 1: Refer to page 2-1 “Note for disconnecting the harness (coaxial cable)” when changing the harness (coaxial cable).

Note 2: Be sure to read “Precuations for Replacement of Imager” on page 4-3 when changing the imager.

Ref. No.	Part No.	Description
201	1-788-775-31	LENS, VIDEO CF0022
* 202	4-119-361-01	HEAT SINK, LENS
203	4-119-362-01	SHEET (2828), LENS RADIATION
* 204	4-119-360-01	SHEET, CM RADIATION
205	A-1566-526-A	DEVICE (SERVICE), PRISM (including IC3001/IC5001 (CMOS imager) and CM-097/104 complete boards) (Note 2)

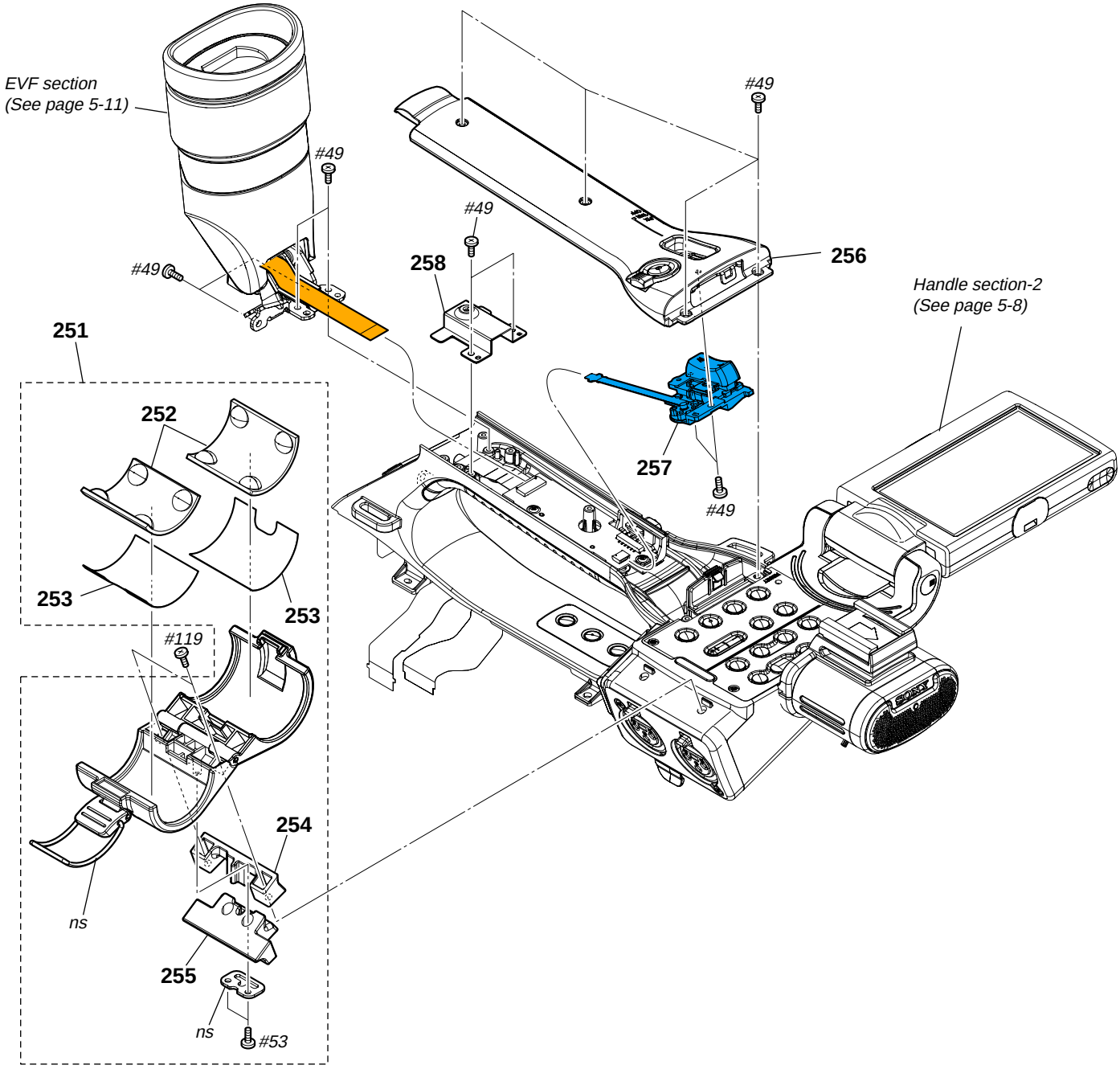
Ref. No.	Part No.	Description
206	1-966-281-11	HARNESS (COAXIAL CABLE) (Note 1)
* 207	4-119-357-01	COVER (A), LIGHT INTERCEPTION
* 208	4-119-358-01	COVER (B), LIGHT INTERCEPTION
* 209	4-119-359-01	PLATE, GY GROUND
210	A-1602-003-A	GY-014 BOARD, COMPLETE (SERVICE)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)
#155	3-080-204-31	SCREW, TAPPING, P2 (Black)

5. REPAIR PARTS LIST

5-1-6. HANDLE SECTION-1

ns: not supplied

DISASSEMBLY HARDWARE LIST



Ref. No.	Part No.	Description
251	X-2342-570-1	HOLDER (93000) ASSY, MICROPHONE
252	3-284-080-01	RUBBER, MICROPHONE
253	3-284-081-01	SHEET, RUBBER ADHESIVE
254	3-284-075-02	COVER, MICROPHONE HOLDER RUBBER
255	4-119-861-01	RUBBER (93000), HOLDER
256	X-2514-872-1	CABINET (93501) ASSY, (UPPER)

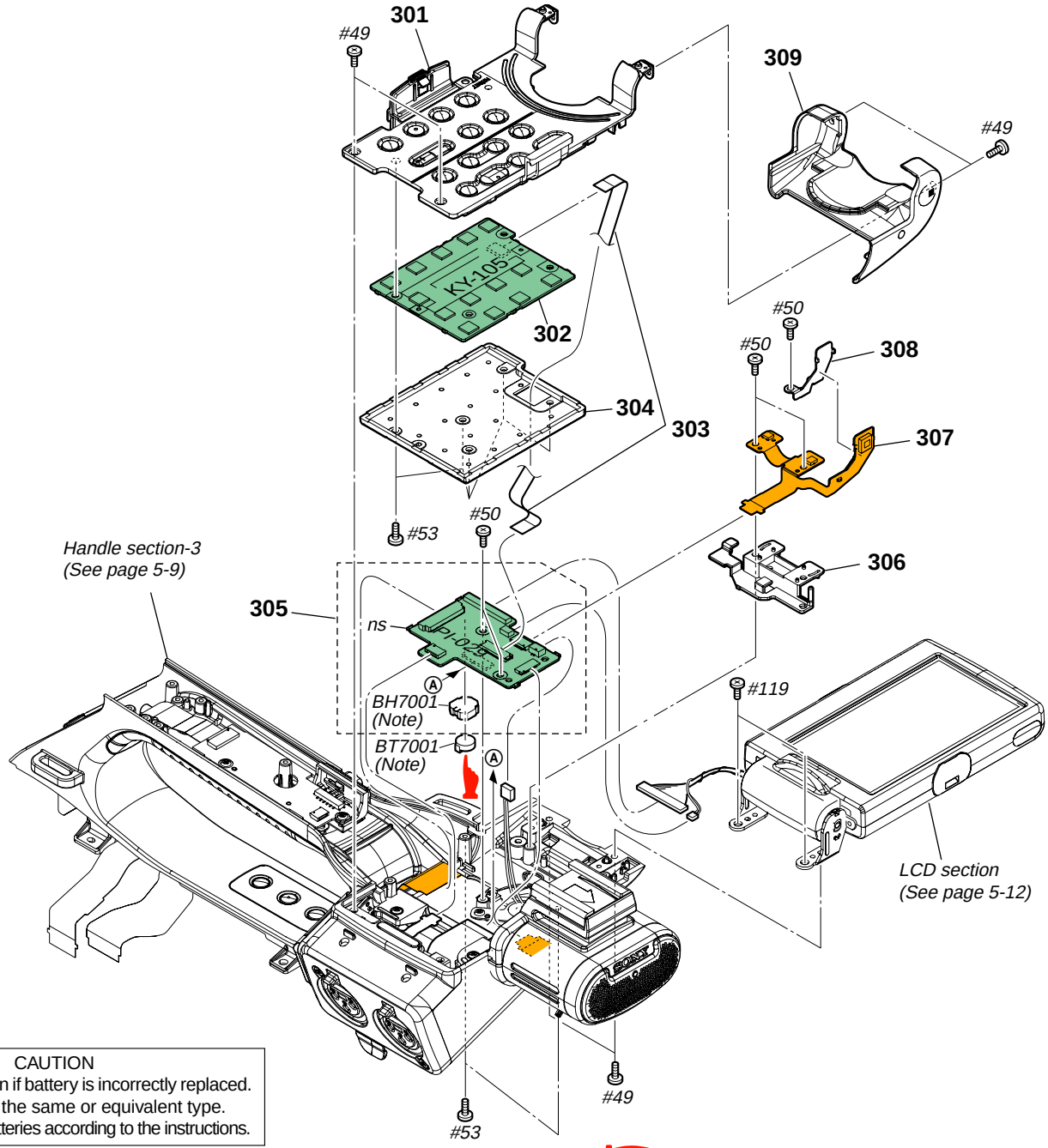
Ref. No.	Part No.	Description
257	1-480-298-11	SWITCH BLOCK, CONTROL (GZ92000)
258	4-119-281-01	BRACKET, HANDLE (UPPER) CABINET
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)
#119	7-627-556-58	SCREW +P 2.6X5 (Black)

5. REPAIR PARTS LIST

5-1-7. HANDLE SECTION-2

ns: not supplied

DISASSEMBLY HARDWARE LIST



CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
Dispose of used batteries according to the instructions.

Note : Replace the battery holder (BH7001) together when replacing the lithium storage battery (BT7001) on the PI-029 board. (The battery holder removed once cannot be used again.)
When mounting these parts, mount new battery holder first and attach new lithium storage battery next.

: BT7001 (LITHIUM STORAGE BATTERY) Board on the mount position. (See page 4-63.)

• Refer to page 5-1 for mark ⚠.

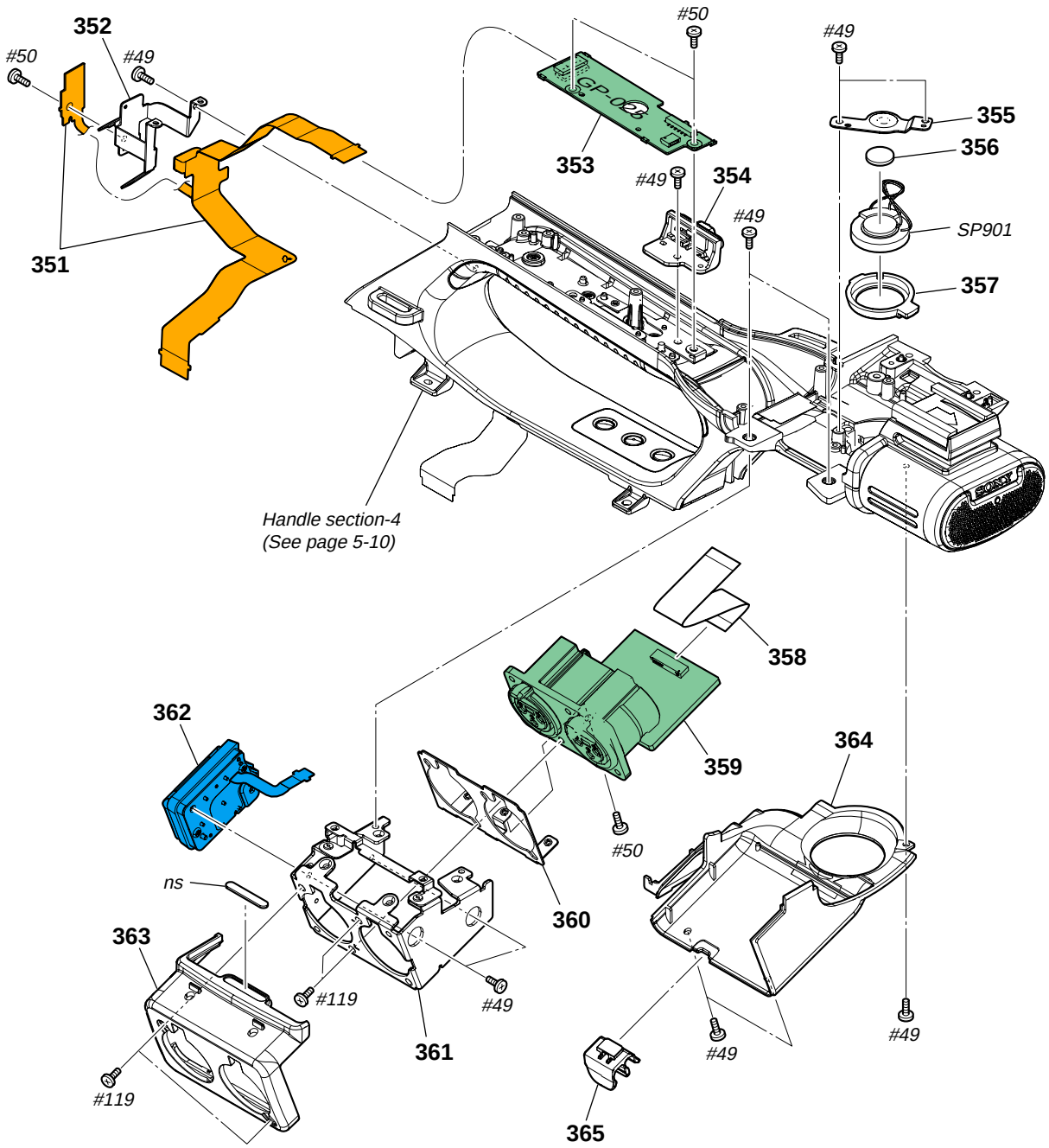
Ref. No.	Part No.	Description
301	X-2188-605-1	PANEL ASSY, CONTROL
302	A-1599-625-A	KY-105 BOARD, COMPLETE
303	1-836-004-11	FLEXIBLE FLAT CABLE (FFC-170)
* 304	3-288-540-01	COVER (BB)
305	A-1616-348-A	PI-029 BOARD, COMPLETE
306	4-119-279-01	HOLDER, FLEXIBLE
307	A-1599-641-A	FP-966 FLEXIBLE BOARD, COMPLETE
308	X-2188-609-1	FIXED (759) ASSY
309	X-2320-881-1	COVER (93000) ASSY, (FRONT)
⚠BH7001	1-756-615-61	HOLDER, BATTERY (Note)
⚠BT7001	1-756-134-12	BATTERY, STORAGE, LITHIUM (Note)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#119	7-627-556-58	SCREW +P 2.6X5 (Black)

5. REPAIR PARTS LIST

5-1-8. HANDLE SECTION-3

ns: not supplied

DISASSEMBLY HARDWARE LIST



Ref. No.	Part No.	Description
351	A-1599-637-A	FP-967 FLEXIBLE BOARD, COMPLETE
352	4-119-283-01	BRACKET, REAR TALLY
353	A-1599-627-A	GP-025 BOARD, COMPLETE
354	X-2188-599-1	KNOB ASSY, ZOOM SELECTION
* 355	4-119-284-01	RETAINER, SPEAKER
* 356	4-119-285-01	CUSHION, SPEAKER
357	2-178-550-01	HOLDER, SPEAKER
358	1-836-005-11	FLEXIBLE FLAT CABLE (FFC-171)
359	A-1599-620-A	XL-010 BOARD, COMPLETE
* 360	3-877-532-01	BRACKET, XL

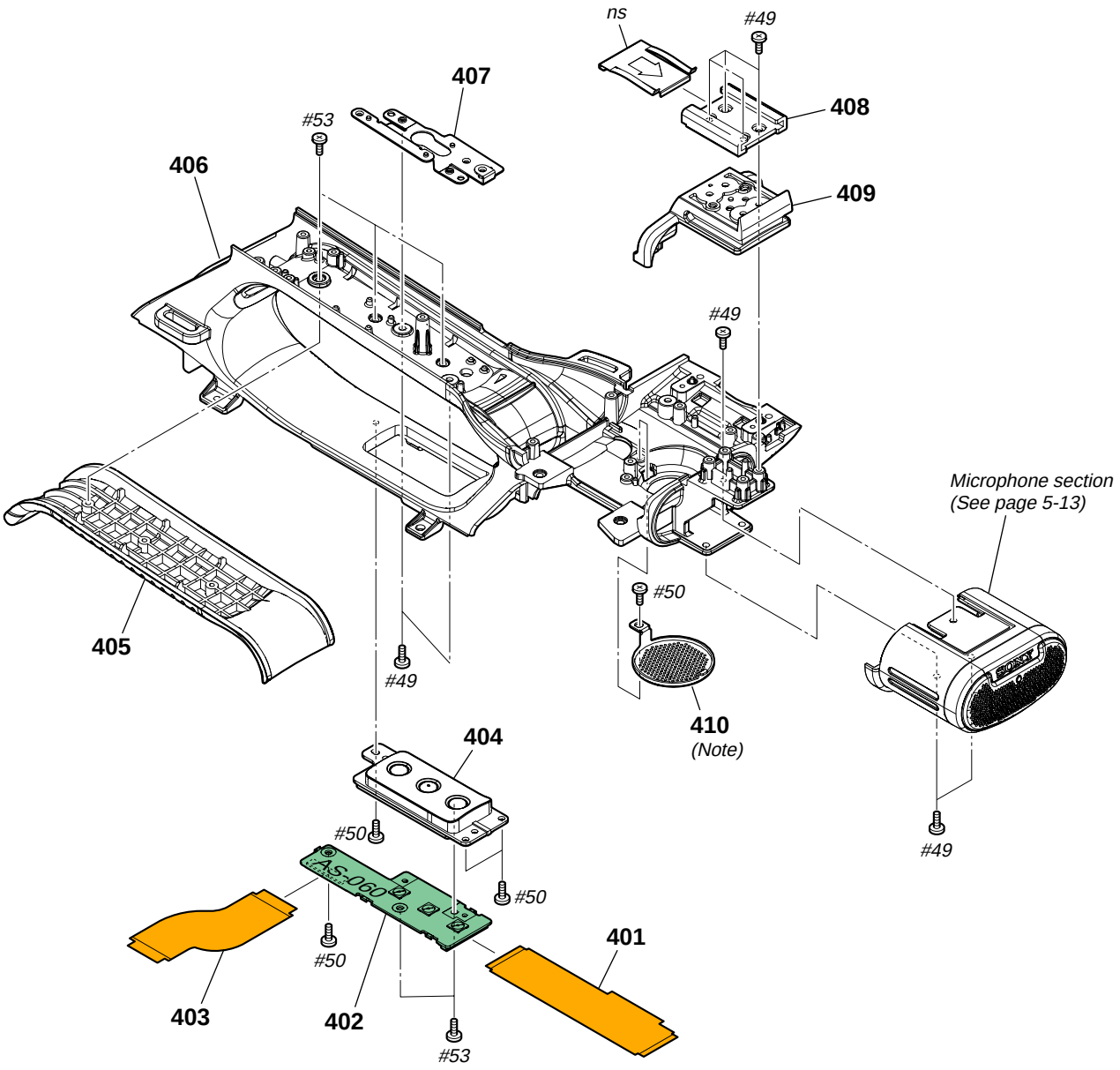
Ref. No.	Part No.	Description
361	X-2320-879-1	FRAME ASSY, XLR
362	1-480-870-11	SWITCH BLOCK, CONTROL (XS93000)
363	4-119-812-01	COVER, XLR
364	4-119-811-01	CABINET (93000), HANDLE (FRONT)
365	2-892-095-01	CLAMP, CABLE
SP901	1-825-968-11	LOUDSPEAKER (1.8CM)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#119	7-627-556-58	SCREW +P 2.6X5 (Black)

5. REPAIR PARTS LIST

5-1-9. HANDLE SECTION-4

ns: not supplied

DISASSEMBLY HARDWARE LIST



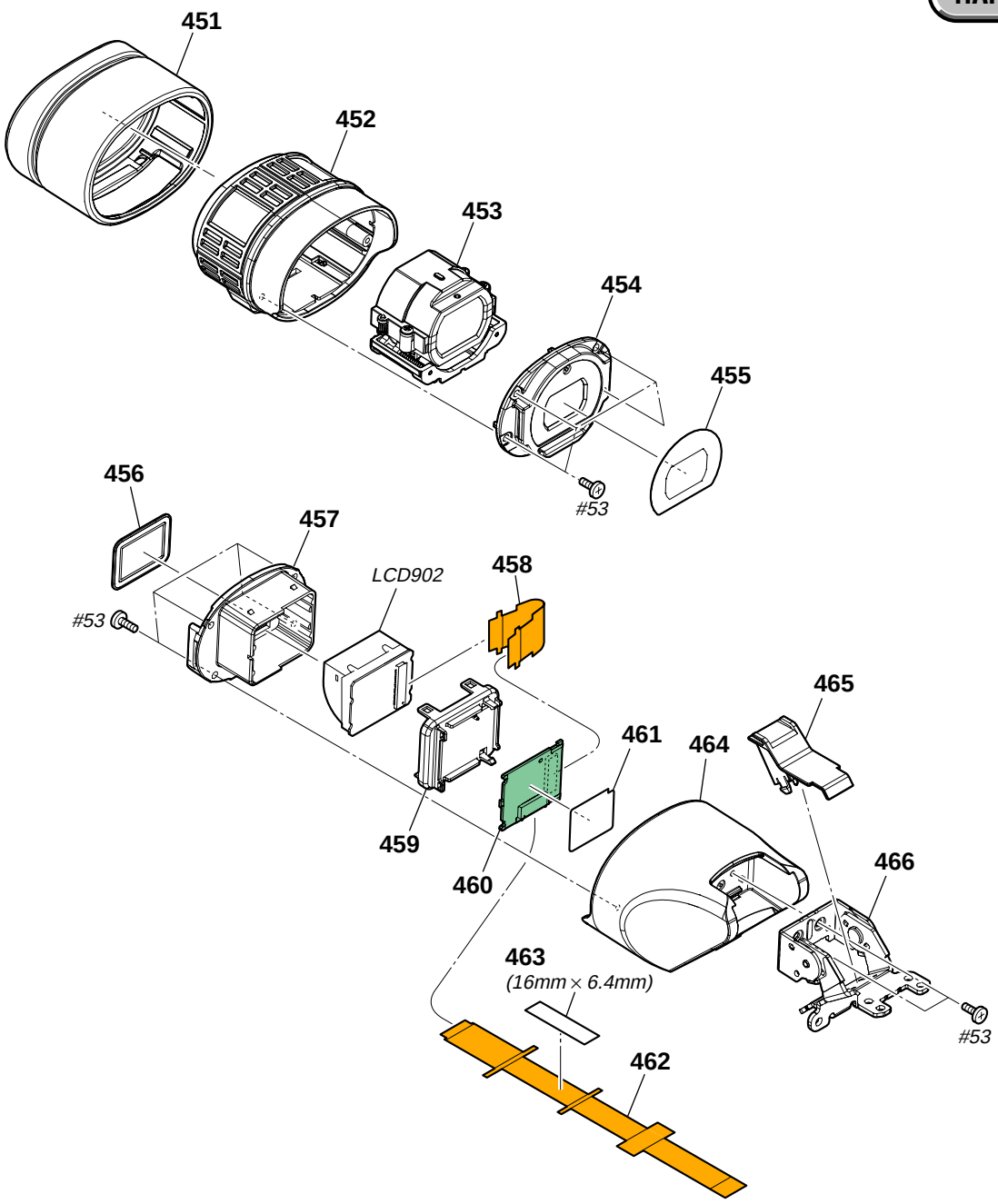
Note: Be sure to read “HELP09” when you install the speaker grille.

Ref. No.	Part No.	Description
401	1-876-953-11	FP-982 FLEXIBLE BOARD
402	A-1599-643-A	AS-060 BOARD, COMPLETE
403	1-876-952-11	FP-981 FLEXIBLE BOARD
404	X-2320-883-1	CABINET (93000) ASSY, ASSIGN
405	4-119-277-01	GRIP
406	4-119-276-11	HANDLE
407	4-119-282-01	BRACKET, GP

Ref. No.	Part No.	Description
408	3-069-286-21	SHOE, ACCESSORY
409	4-119-278-11	CABINET, FRONT SHOE
* 410	2-178-566-01	GRILLE, SPEAKER (Note)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)

5-1-10. EVF SECTION

HARDWARE LIST



CAUTION: For the part of 463, cut NON WOVEN (T0.25) (3-076-631-01) into the desired length and use it.

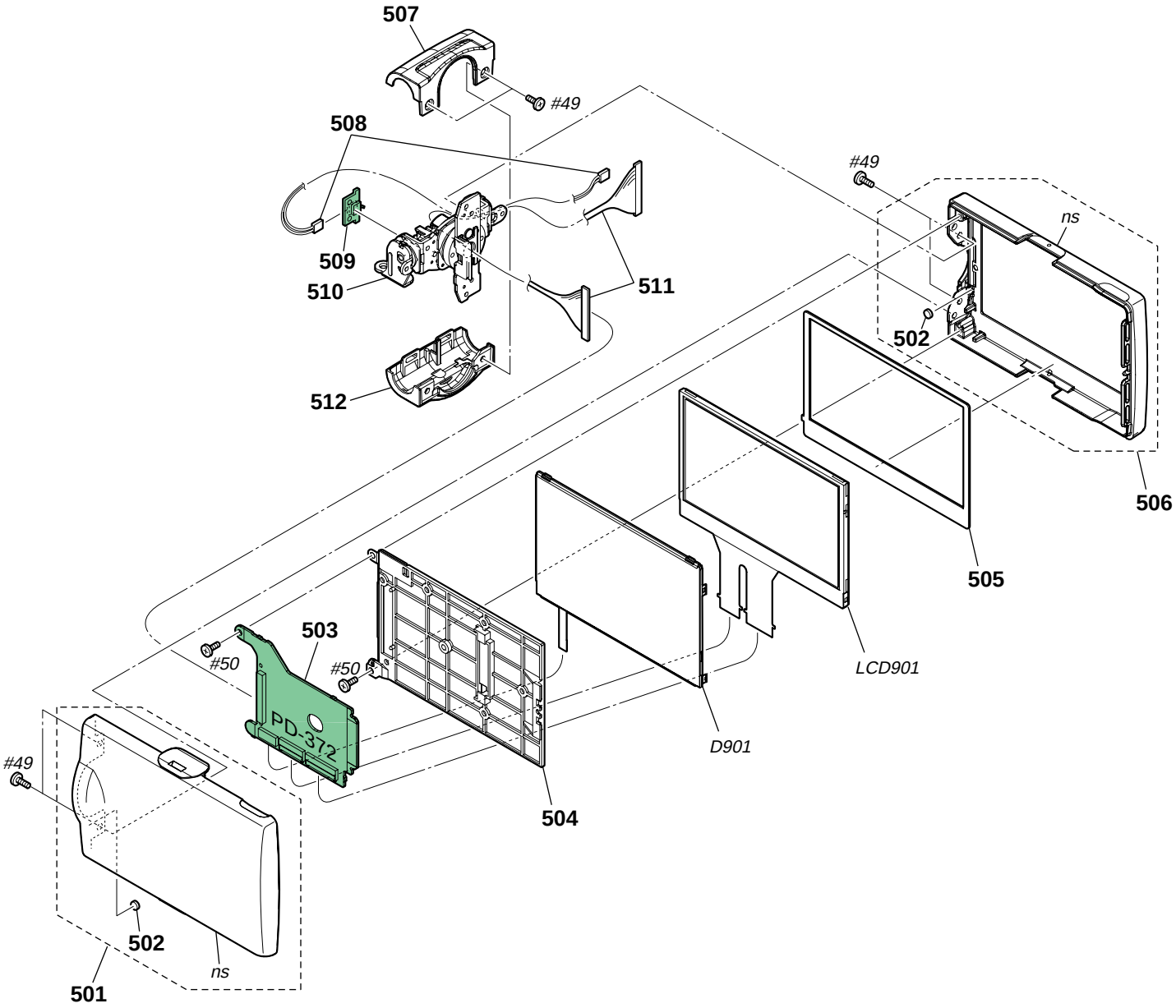
Ref. No.	Part No.	Description
451	4-119-301-01	EYE CUP (SMALL)
452	X-2320-885-1	EYE CUP (93000) ASSY
453	X-2320-861-1	LENS ASSY, VF
454	4-119-302-01	LID, EYE CUP CABINET
455	4-119-303-01	COVER, EYE CUP CABINET LID
456	3-288-591-01	SHEET, VF PROTECTION
457	3-288-585-01	CASE, PANEL
458	1-873-733-11	FP-776 FLEXIBLE BOARD
459	3-288-586-01	LID, PANEL
460	A-1599-826-A	VF-178 BOARD, COMPLETE

Ref. No.	Part No.	Description
* 461	3-299-948-01	SHEET (UU)
462	1-876-945-11	FP-974 FLEXIBLE BOARD
463	CAUTION	TAPE, VF
464	X-2320-886-1	CABINET (93000) ASSY, VF
* 465	3-877-836-01	HOLDE_FPC (VF)
466	X-2320-859-1	HINGE ASSY, VF
LCD902	1-802-560-31	LCD MODULE
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)

5-1-11. LCD SECTION

ns: not supplied

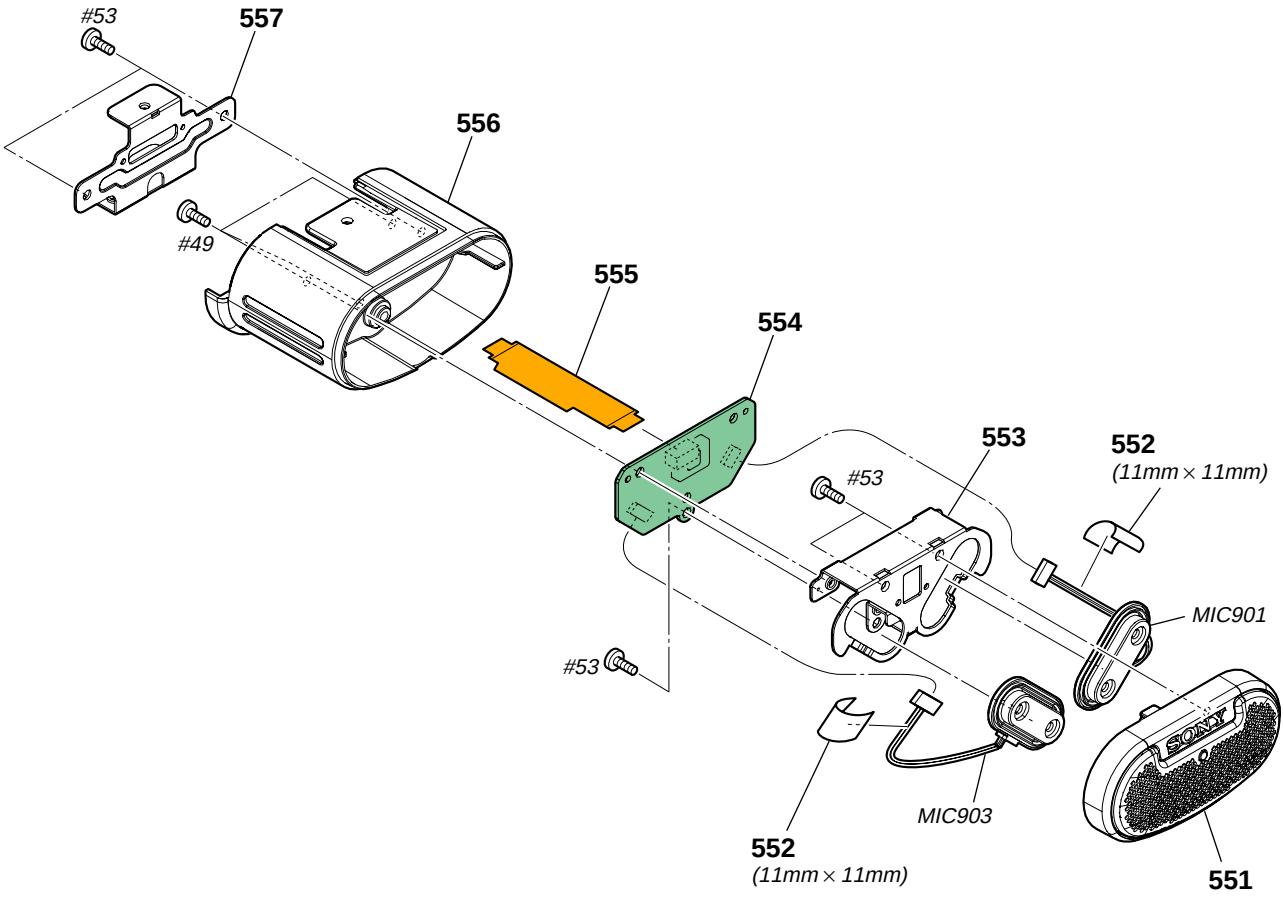
DISASSEMBLY HARDWARE LIST



Ref. No.	Part No.	Description
501	X-2514-875-1	CABINET (UPPER (93501)) ASSY
502	1-471-278-11	MAGNET
503	A-1599-827-A	PD-372 BOARD, COMPLETE
504	X-2188-611-1	FRAME ASSY, BL
505	3-288-565-11	CUSHION, PANEL
506	X-2188-613-1	CABINET (LOWER) ASSY, PANEL
507	3-288-566-01	CABINET (T), PANEL HINGE
508	1-963-030-21	HARNESS (SW-116)
509	A-1599-828-A	HT-002 BOARD, COMPLETE
510	X-2342-571-1	HINGE (TYPE 07KAI) ASSY, PANEL
511	1-964-790-21	HARNESS (PR-074)
512	3-288-567-01	CABINET (B), PANEL HINGE
D901	1-480-358-11	BLOCK, LIGHT GUIDE PLATE (3.2)
LCD901	1-802-590-11	INDICATOR MODULE, LIQUIDCRYSTAL
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)

5-1-12. MICROPHONE SECTION

HARDWARE LIST



CAUTION: For the part of 552, cut NON WOVEN (T0.25) (3-076-631-01) into the desired length and use it.

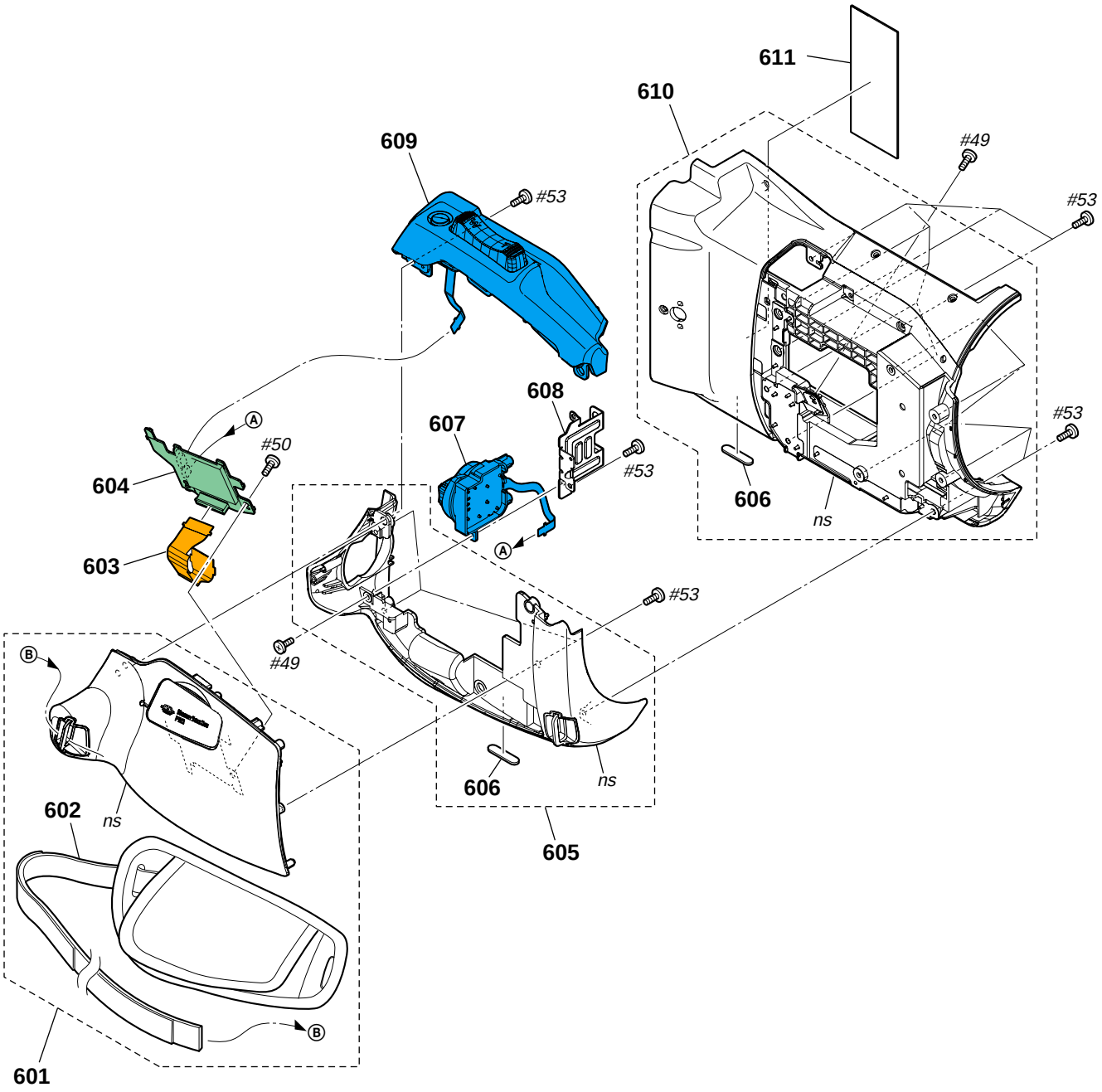
Ref. No.	Part No.	Description
551	X-2320-887-1	GRILLE (93000) ASSY, MICROPHONE
552	CAUTION	TAPE (11x11)
* 553	4-119-326-01	BRACKET (F), MICROPHONE
554	A-1599-610-A	MA-454 BOARD, COMPLETE
555	1-876-946-11	FP-975 FLEXIBLE BOARD
556	4-119-325-11	COVER (M), MICROPHONE

Ref. No.	Part No.	Description
* 557	4-119-330-01	BRACKET (M), MICROPHONE
MIC901	1-542-513-21	MICROPHONE (R ch)
MIC903	1-542-513-21	MICROPHONE (L ch)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)

5-1-13. CABINET (L) SECTION

ns: not supplied

DISASSEMBLY HARDWARE LIST

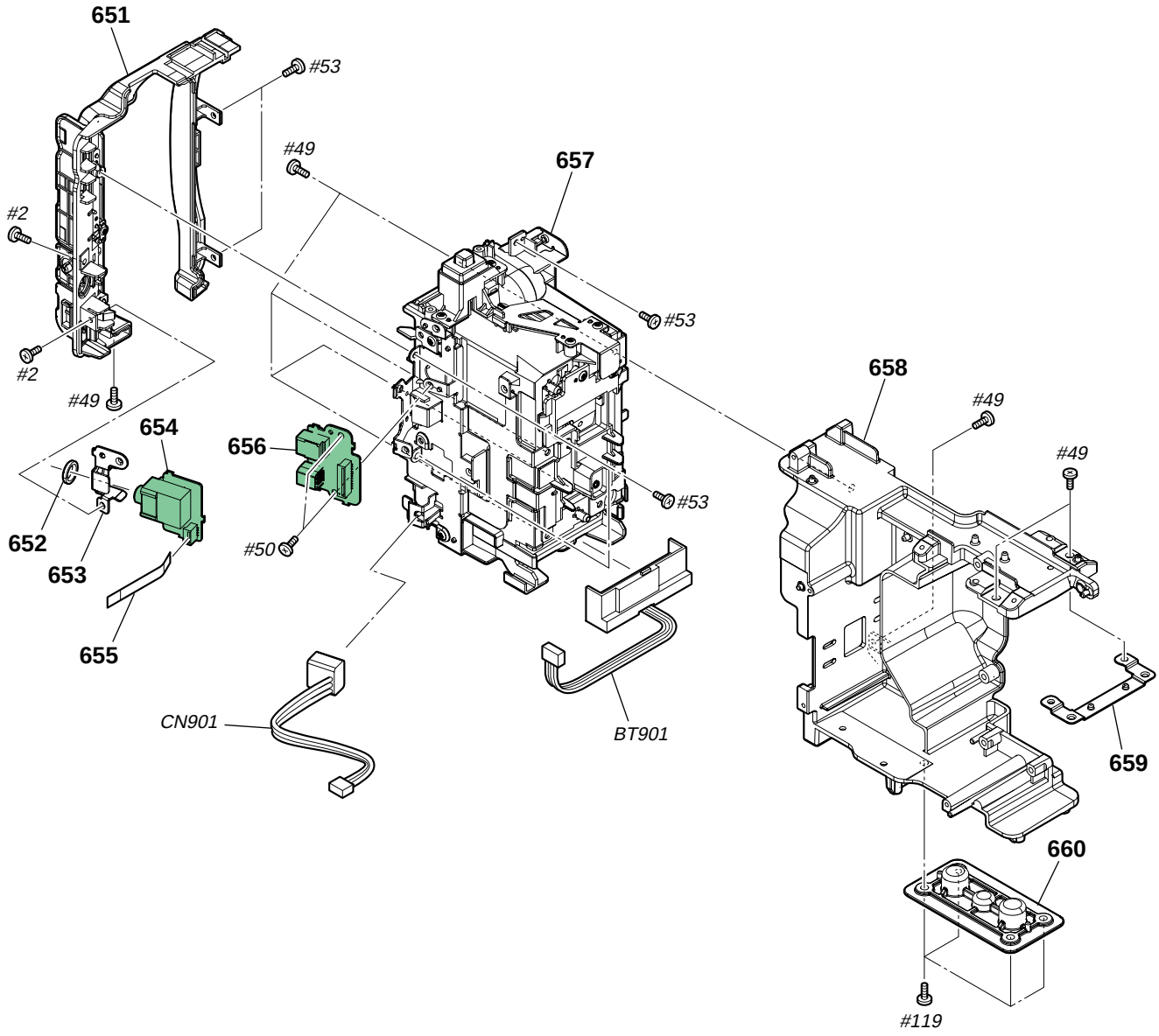


Ref. No.	Part No.	Description
601	X-2342-572-1	CABINET (G (93000)) ASSY
602	2-178-804-01	BELT, GRIP
603	1-876-942-11	FP-971 FLEXIBLE BOARD
604	A-1599-839-A	MS-405 BOARD, COMPLETE
605	X-2514-878-1	CABINET (U (93501)) ASSY
606	2-178-805-01	FOOT, RUBBER
607	1-480-869-11	SWITCH BLOCK, CONTROL (PS24000)
* 608	4-119-422-01	FRAME, PS

Ref. No.	Part No.	Description
609	1-480-868-21	SWITCH BLOCK, CONTROL (PZ93000)
610	X-2514-877-1	CABINET (L (93501)) ASSY
611	4-119-448-02	LABEL, FUSE REPLACEMENT CAUTION
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)

5-1-14. BT PANEL SECTION

HARDWARE LIST



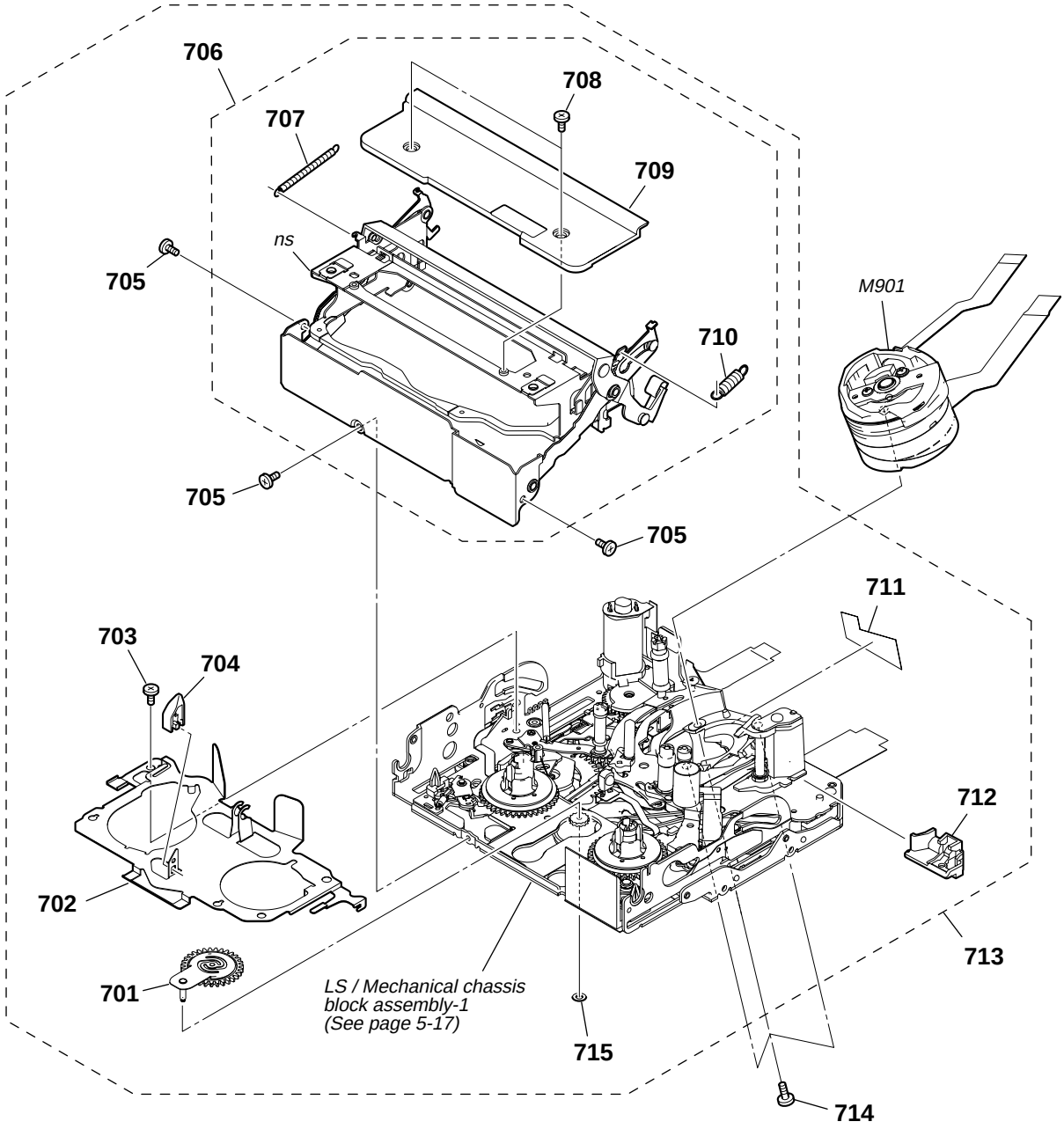
• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
651	X-2514-874-1	PANEL (93501) ASSY, BT
652	3-061-234-01	NUT (M6X0.5)
653	4-119-251-01	HOLDER, JACK
654	A-1599-843-A	HP-153 BOARD, COMPLETE
655	1-836-003-11	FLEXIBLE FLAT CABLE (FFC-169)
656	A-1599-841-A	JK-376 BOARD, COMPLETE
657	X-2320-852-2	HOLDER (24000) ASSY, BT
658	4-119-232-01	CHASSIS, MAIN
659	4-119-237-01	PLATE (F), MC FIXED
660	4-119-234-11	WASHER, TRIPOD

Ref. No.	Part No.	Description
⚠BT901	1-694-411-31	TERMINAL BOARD, BATTERY
⚠CN901	1-785-247-31	CONNECTOR, DC-IN
#2	2-635-562-31	SCREW (M1.7) (Black)
#49	2-630-005-31	SCREW (M2), NEW TRUSTER, P2 (Black)
#50	2-891-494-11	SCREW (M2), NEW TRUSTER, P2 (Red)
#53	3-080-206-21	SCREW, TAPPING, P2 (Black)
#119	7-627-556-58	SCREW +P 2.6X5 (Black)

5-1-15. MECHANISM DECK SECTION

ns: not supplied

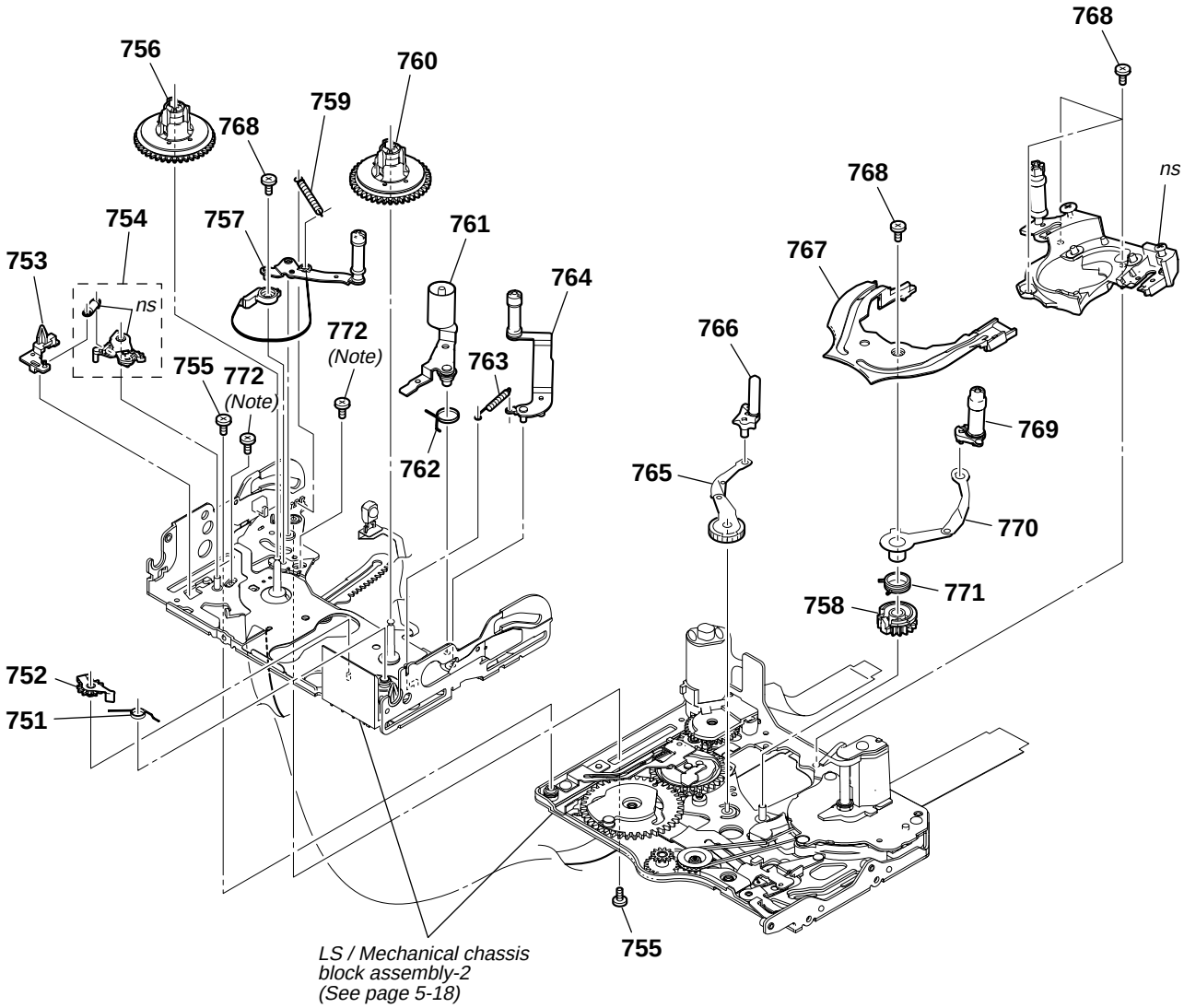


Ref. No.	Part No.	Description
701	X-2024-478-1	PENDULUM ASSY
702	2-342-917-02	BASE, LED
703	7-627-850-77	SCREW, PRECISION +P 1.4X1.8
704	3-079-366-11	RELEASE, REEL LOCK
705	3-703-816-08	SCREW (M1.4X1.4), SPECIAL HEAD
706	X-2103-406-3	CASSETTE COMPARTMENT ASSY
707	2-342-926-01	SPRING (ARM S), TENSION COIL
708	2-666-376-11	SCREW (1.4X1.0), POWER LOCK
709	2-342-933-02	PLATE, TOP
710	2-342-927-01	SPRING (ARM T), TENSION COIL

Ref. No.	Part No.	Description
711	2-541-585-01	SHEET, FLEXIBLE ADHESIVE
712	2-342-918-01	TG6 CATCHER
713	A-1437-006-A	MD (N220) SUB ASSY (S) A
714	3-703-816-13	SCREW (M1.4X2.0), SPECIAL HEAD
715	3-315-414-31	WASHER
M901	A-1128-533-A	DRUM (DEH-33B-R)

5-1-16. LS/MECHANICAL CHASSIS BLOCK ASSEMBLY-1

ns: not supplied



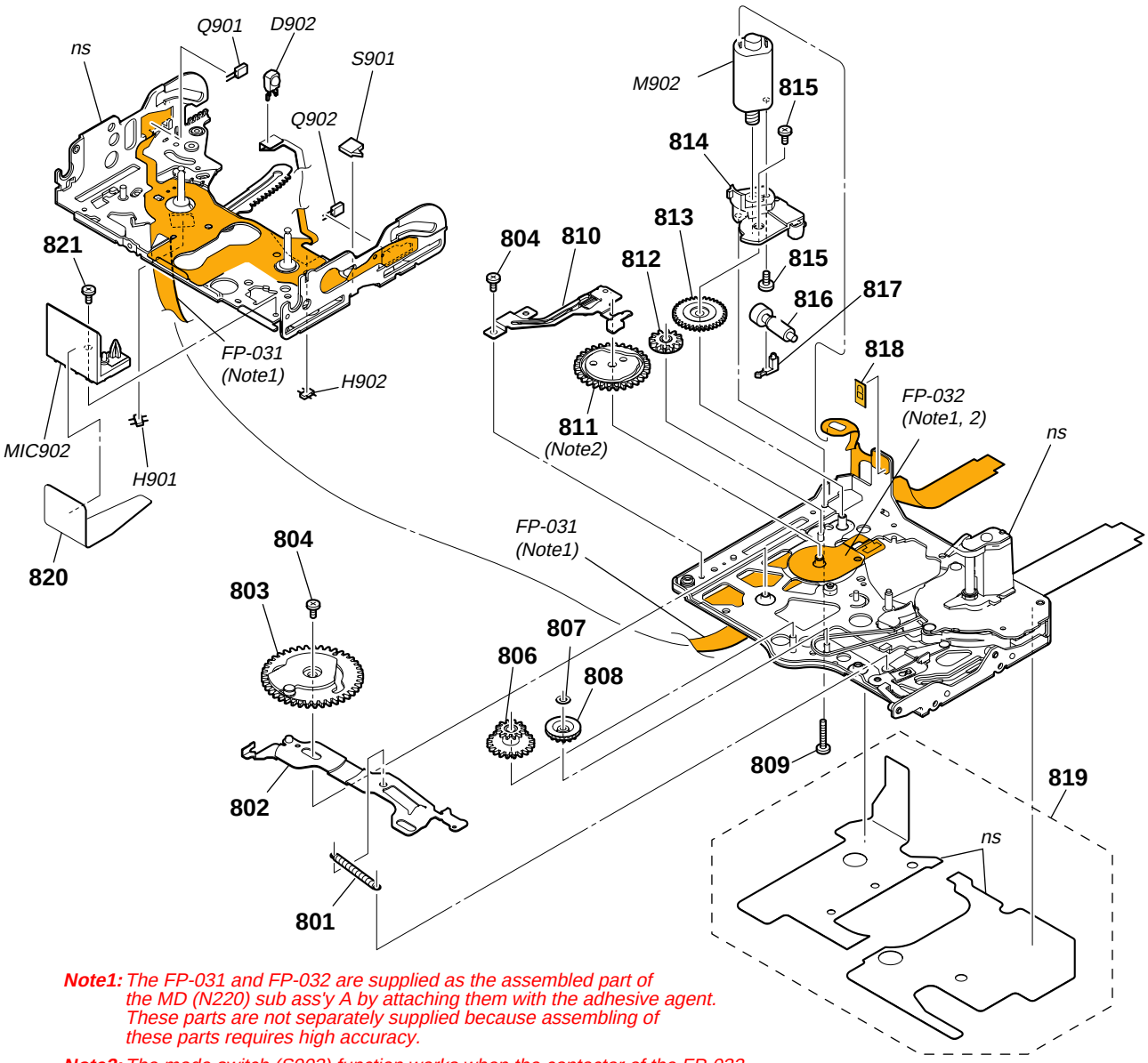
Note: *These two screws are the fixing screws of the LS cam plate.*
These two fixing screws are used for adjusting the LS cam plate position.
(refar to 4-2. LS cam adjustment of DV mechanical adjustment manual IX)

Ref. No.	Part No.	Description
751	2-342-759-01	SPRING, RVS BRAKE
752	A-1083-005-A	BRAKE BLOCK ASSY, RVS
753	2-342-731-01	POSITIONING, S
754	A-1083-006-A	BRAKE BLOCK ASSY, S
755	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD
756	X-2067-290-1	TABLE ASSY, S REEL
757	A-1132-279-A	REGULATOR BLOCK ASSY, TENSION
758	2-342-705-01	GEAR (T), GL
759	2-342-902-01	SPRING, TENSION REGULATOR
760	X-2067-291-1	TABLE ASSY, T REEL
761	X-2067-295-1	ARM ASSY, PINCH
762	2-342-906-01	SPRING (PINCH RETURN), TORSION

Ref. No.	Part No.	Description
763	2-342-626-01	SPRING (RETURN TG6), EXTENS
764	A-1083-002-A	TG6 BLOCK ASSY
765	X-2024-468-1	ARM (S) ASSY, GL
766	X-2024-465-1	COASTER (S) ASSY
767	2-342-612-01	RAIL
768	3-703-816-13	SCREW (M1.4X2.0), SPECIAL HEAD
769	X-2024-466-1	COASTER (T) ASSY
770	X-2024-469-1	ARM (T) ASSY, GL
771	2-342-716-01	SPRING (T), TORSION COIL
772	3-703-816-08	SCREW (M1.4X1.4), SPECIAL HEAD (for adjustment) (Note)

5-1-17. LS/MECHANICAL CHASSIS BLOCK ASSEMBLY-2

ns: not supplied



Note1: *The FP-031 and FP-032 are supplied as the assembled part of the MD (N220) sub ass'y A by attaching them with the adhesive agent. These parts are not separately supplied because assembling of these parts requires high accuracy.*

Note2: *The mode switch (S903) function works when the contactor of the FP-032 contacts with the bottom surface of wiper of the mode gear ass'y.*

Ref. No.	Part No.	Description
801	2-342-624-02	SPRING (PINCH LIMITTER), EXTEN
802	X-2024-463-2	SLIDER ASSY, MODE
803	X-2067-281-1	GEAR ASSY, CAM
804	3-075-097-11	SCREW (M1.4X1.4), SPECIAL HEAD
806	2-342-621-01	GEAR, RELAY
807	3-315-414-31	WASHER
808	2-342-620-01	GEAR, CONVERSION
809	3-084-377-01	HEAD (SCREW M1.2)
810	X-2024-460-1	BASE ASSY, CAM
811	X-2024-461-1	GEAR ASSY, MODE (Note 2)
812	2-342-615-01	GEAR, NO.2
813	2-342-691-01	GEAR, NO.1
814	2-637-945-01	HOLDER, MOTOR
815	3-895-822-71	SCREW (M1.2X2), SPECIAL, 0
816	2-342-689-01	SHAFT (2J), WORM
817	2-637-947-01	BASE, MOTOR HOLDER

Ref. No.	Part No.	Description
818	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR)
819	2-342-686-01	COVER, CAPSTAN
820	2-541-984-01	COVER, MIC
821	3-703-816-13	SCREW (M1.4X2.0), SPECIAL HEAD
D902	6-500-652-01	DIODE GL453SE0000F (TAPE LED)
H901	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (S REEL SENSOR)
H902	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (T REEL SENSOR)
M902	X-2067-283-2	MOTOR ASSY (LOADING MOTOR)
MIC902	1-818-576-11	PIN, CONNECTOR (WITH DETECTION) (4PIN CONNECTOR)
Q901	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE END SENSOR)
Q902	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE TOP SENSOR)
S901	1-786-448-22	SWITCH, PUSH (1 KEY) (CC DOWN)

5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description			
	A-1599-643-A	AS-060 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
CN8801	1-817-920-11	CONNECTOR, FPC (ZIF) 80P			
CN8802	1-817-920-11	CONNECTOR, FPC (ZIF) 80P			
		< RESISTOR >			
R8804	1-218-954-11	METAL CHIP	1.2K	5%	1/16W
R8805	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
		< SWITCH >			
S8801	1-786-157-31	TACTILE SWITCH (4 (ASSIGN))			
S8802	1-786-157-31	TACTILE SWITCH (5 (ASSIGN))			
S8803	1-786-157-31	TACTILE SWITCH (6 (ASSIGN))			
		< VARISTOR >			
* VDR881	1-802-279-11	VARISTOR (SMD)			
	A-1599-835-A	CK-204 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
* CN8001	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P			
CN8002	1-816-655-61	CONNECTOR, FFC/FPC 8P			
* CN8003	1-779-333-51	CONNECTOR, FFC/FPC 18P			
* CN8004	1-779-331-51	CONNECTOR, FFC/FPC 14P			
* CN8005	1-779-327-51	CONNECTOR, FFC/FPC 6P			
		< RESISTOR >			
R8001	1-218-970-11	METAL CHIP	27K	5%	1/16W
R8002	1-218-970-11	METAL CHIP	27K	5%	1/16W
R8003	1-218-970-11	METAL CHIP	27K	5%	1/16W
R8004	1-218-964-11	METAL CHIP	8.2K	5%	1/16W
R8005	1-218-964-11	METAL CHIP	8.2K	5%	1/16W
R8006	1-218-964-11	METAL CHIP	8.2K	5%	1/16W
R8007	1-218-960-11	METAL CHIP	3.9K	5%	1/16W
R8008	1-218-960-11	METAL CHIP	3.9K	5%	1/16W
R8009	1-218-960-11	METAL CHIP	3.9K	5%	1/16W
R8011	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R8012	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R8013	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R8014	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R8015	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
R8016	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
R8018	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
R8019	1-218-954-11	METAL CHIP	1.2K	5%	1/16W
R8020	1-218-954-11	METAL CHIP	1.2K	5%	1/16W
R8022	1-218-954-11	METAL CHIP	1.2K	5%	1/16W
R8029	1-218-960-11	METAL CHIP	3.9K	5%	1/16W
R8030	1-218-964-11	METAL CHIP	8.2K	5%	1/16W
R8031	1-218-970-11	METAL CHIP	27K	5%	1/16W

Ref. No.	Part No.	Description
	A-1566-526-A	DEVICE (SERVICE), PRISM (Note)
	(Not supplied)	CM-097 BOARD, COMPLETE
		**********

(CM-097 complete board and all mounted parts (including IC3001 (CMOS IMAGER)) are not supplied, but they are included in PRISM DEVICE (SERVICE).)

	A-1566-526-A	DEVICE (SERVICE), PRISM (Note)
	(Not supplied)	CM-104 BOARD, COMPLETE
		**********

(CM-104 complete board and all mounted parts (including IC5001 (CMOS IMAGER)) are not supplied, but they are included in PRISM DEVICE (SERVICE).)

	(Not supplied)	FP-031 FLEXIBLE BOARD
		**********

(This flexible board is included in MD (N220) sub assy (S) A (A-1437-006-A).)

		< DIODE >
D902	6-500-652-01	DIODE GL453SE0000F (TAPE LED)
		< HOLE ELEMENT >
H901	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (S REEL SENSOR)
H902	8-719-067-74	ELEMENT, HOLE HW-105A-CDE-T (T REEL SENSOR)
		< CONNECTOR >
MIC902	1-818-576-11	PIN, CONNECTOR (WITH DETECTION) (4 PIN CONNECTOR)
		< TRANSISTOR >
Q901	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE END SENSOR)
Q902	6-550-672-01	TRANSISTOR PT4850FJE00F (TAPE TOP SENSOR)
		< SWITCH >
S901	1-786-448-22	SWITCH, PUSH (1 KEY) (CC DOWN)

	(Not supplied)	FP-032 FLEXIBLE BOARD
		**********

(This flexible board with S903 is included in MD (N220) sub assy (S) A (A-1437-006-A).)

Note: Be sure to read “Precautions for Replacement of Imager” on page 4-3 when changing the imager.

Ref. No.	Part No.	Description			
	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR)			
		**********			

(This flexible board is included in MD (N220) sub assy (S) A (A-1437-006-A).)

	1-873-733-11	FP-776 FLEXIBLE BOARD			
		**********			

(There isn't mounted electrical parts in FP-776 flexible board.)

	A-1599-641-A	FP-966 FLEXIBLE BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C401	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C402	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C403	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		< IC >			
IC401	6-600-163-01	IC RS-770			
IC402	6-600-513-11	IC TK60019CS8G0L			
IC403	6-600-513-11	IC TK60019CS8G0L			
		< RESISTOR >			
R401	1-216-805-11	METAL CHIP	47	5%	1/10W

	A-1599-637-A	FP-967 FLEXIBLE BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C201	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
		< DIODE >			
D201	8-719-064-07	DIODE SML-310LTT86 (REC LAMP (BACK))			
		< IC >			
IC201	6-600-163-01	IC RS-770			
		< RESISTOR >			
R201	1-216-815-11	METAL CHIP	330	5%	1/10W
R202	1-216-805-11	METAL CHIP	47	5%	1/10W
		< TEST PIN >			
TP201	1-535-757-11	CHIP, CHECKER			

	A-1599-833-A	FP-969 FLEXIBLE BOARD, COMPLETE			
		**********			
		< SWITCH >			
* S101	1-798-076-21	PUSHBUTTON SWITCH (EJECT)			

Ref. No.	Part No.	Description			
	1-876-942-11	FP-971 FLEXIBLE BOARD			
		**********			

(There isn't mounted electrical parts in FP-971 flexible board.)

	1-876-944-11	FP-973 FLEXIBLE BOARD			
		**********			

(There isn't mounted electrical parts in FP-973 flexible board.)

	1-876-945-11	FP-974 FLEXIBLE BOARD			
		**********			

(There isn't mounted electrical parts in FP-974 flexible board.)

	1-876-946-11	FP-975 FLEXIBLE BOARD			
		**********			

(There isn't mounted electrical parts in FP-975 flexible board.)

	1-876-952-11	FP-981 FLEXIBLE BOARD			
		**********			

(There isn't mounted electrical parts in FP-981 flexible board.)

	1-876-953-11	FP-982 FLEXIBLE BOARD			
		**********			

(There isn't mounted electrical parts in FP-982 flexible board.)

	1-876-954-11	FP-983 FLEXIBLE BOARD			
		**********			

(There isn't mounted electrical parts in FP-983 flexible board.)

	A-1599-627-A	GP-025 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C7811	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
		< CONNECTOR >			
* CN7801	1-817-564-71	CONNECTOR, FPC (ZIF) 33P			
CN7802	1-816-654-61	FFC/FPC CONNECTOR (LIF) 6P			
* CN7803	1-817-543-71	CONNECTOR, FPC (ZIF) 27P			
		< RESISTOR >			
R7801	1-218-970-11	METAL CHIP	27K	5%	1/16W
R7802	1-218-964-11	METAL CHIP	8.2K	5%	1/16W
R7803	1-218-960-11	METAL CHIP	3.9K	5%	1/16W
R7804	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R7805	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
R7806	1-218-954-11	METAL CHIP	1.2K	5%	1/16W
R7812	1-216-864-11	SHORT CHIP	0		
		< SWITCH >			
S7801	1-771-487-11	SWITCH, SLIDE (HANDLE ZOOM)			

Ref. No.	Part No.	Description			
	A-1602-003-A	GY-014 BOARD, COMPLETE (SERVICE)			
		**********			
		< CAPACITOR >			
C8501	1-165-989-11	CAP, CERAMIC	10uF	10%	6.3V
* C8502	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
* C8503	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
C8504	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8505	1-114-411-21	CAP, CERAMIC	0.33uF	10%	6.3V
C8506	1-114-411-21	CAP, CERAMIC	0.33uF	10%	6.3V
C8507	1-165-989-11	CAP, CERAMIC	10uF	10%	6.3V
C8508	1-165-989-11	CAP, CERAMIC	10uF	10%	6.3V
C8509	1-119-923-11	CAP, CERAMIC	0.047uF	10%	10V
C8510	1-119-923-11	CAP, CERAMIC	0.047uF	10%	10V
C8511	1-119-923-11	CAP, CERAMIC	0.047uF	10%	10V
C8512	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8513	1-119-923-11	CAP, CERAMIC	0.047uF	10%	10V
C8514	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8515	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8516	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8517	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8518	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8519	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8520	1-165-989-11	CAP, CERAMIC	10uF	10%	6.3V
C8521	1-165-989-11	CAP, CERAMIC	10uF	10%	6.3V
C8522	1-165-989-11	CAP, CERAMIC	10uF	10%	6.3V
		< CONNECTOR >			
CN8501	1-816-655-61	CONNECTOR, FFC/FPC 8P			
		< IC >			
* IC8501	8-753-284-38	IC CXA3739AER-T2			
		< RESISTOR >			
R8509	1-218-989-11	RES, CHIP	1M	5%	1/16W
R8510	1-218-989-11	RES, CHIP	1M	5%	1/16W
R8511	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R8512	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R8513	1-208-711-11	RES, CHIP	15K	0.50%	1/16W
R8514	1-208-711-11	RES, CHIP	15K	0.50%	1/16W
R8515	1-218-969-11	RES, CHIP	22K	5%	1/16W
R8516	1-218-969-11	RES, CHIP	22K	5%	1/16W
R8517	1-218-969-11	RES, CHIP	22K	5%	1/16W
R8518	1-218-969-11	RES, CHIP	22K	5%	1/16W
R8529	1-218-990-81	SHORT CHIP	0		
R8530	1-218-990-81	SHORT CHIP	0		
		< SENSOR >			
* SE8501	1-480-218-11	SENSOR, ANGULAR VELOCITY (31.2kHz) (PITCH SENSOR)			
* SE8502	1-479-022-61	SENSOR, ANGULAR VELOCITY (32.2kHz) (YAW SENSOR)			

Ref. No.	Part No.	Description			
	A-1599-843-A	HP-153 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C9202	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C9203	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C9204	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C9205	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
		< CONNECTOR >			
CN9201	1-779-328-51	CONNECTOR, FFC/FPC 8P			
		< DIODE >			
D9201	6-501-257-01	DIODE CL-197TLY-CD-T			
		< FERRITE BEAD >			
FB9202	1-400-927-31	BEAD, FERRITE (1005)			
FB9203	1-400-927-31	BEAD, FERRITE (1005)			
		< JACK >			
J9201	1-794-525-12	JACK, MIC (HEADPHONE)			
		< COIL >			
L9201	1-400-922-11	INDUCTOR	220uH		
L9202	1-400-922-11	INDUCTOR	220uH		
	A-1599-828-A	HT-002 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
CN7401	1-794-375-21	PIN, CONNECTOR 2P			
		< SWITCH >			
S7401	1-786-180-11	SWITCH, PUSH (1KEY) (PANEL REVERSE)			
	A-1599-841-A	JK-376 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C9501	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C9502	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
		< CONNECTOR >			
* CN9507	1-779-335-51	CONNECTOR, FFC/FPC 22P			
CN9508	1-815-794-13	CONNECTOR (MULTIPLE) (A/V R)			
* CN9509	1-794-276-21	CONNECTOR, SQUARE TYPE 4P (DV)			
		< FERRITE BEAD >			
FB9501	1-400-927-31	BEAD, FERRITE (1005)			
FB9502	1-400-927-31	BEAD, FERRITE (1005)			
		< COMPOSITION CIRCUIT BLOCK >			
RB9501	1-234-400-21	CONDUCTOR, NETWORK (1005X4)			

Ref. No.	Part No.	Description			
		< THERMISTOR >			
TH9501	1-805-726-11	THERMISTOR, POSITIVE			
TH9502	1-805-726-11	THERMISTOR, POSITIVE			
TH9503	1-805-726-11	THERMISTOR, POSITIVE			
TH9504	1-805-726-11	THERMISTOR, POSITIVE			
		< VARISTOR >			
* VD9501	1-802-279-11	VARISTOR (SMD)			
* VD9502	1-802-279-11	VARISTOR (SMD)			
* VD9504	1-802-279-11	VARISTOR (SMD)			
	A-1599-625-A	KY-105 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
CN7201	1-816-645-61	FFC/FPC CONNECTOR (LIF) 14P			
		< RESISTOR >			
R7201	1-218-990-81	SHORT CHIP	0		
R7202	1-218-954-11	METAL CHIP	1.2K	5%	1/16W
R7204	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
R7205	1-218-954-11	METAL CHIP	1.2K	5%	1/16W
R7206	1-218-954-11	METAL CHIP	1.2K	5%	1/16W
R7207	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R7208	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
R7209	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
R7210	1-218-960-11	METAL CHIP	3.9K	5%	1/16W
R7211	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R7212	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R7213	1-218-964-11	METAL CHIP	8.2K	5%	1/16W
R7214	1-218-960-11	METAL CHIP	3.9K	5%	1/16W
R7215	1-218-960-11	METAL CHIP	3.9K	5%	1/16W
R7216	1-218-964-11	METAL CHIP	8.2K	5%	1/16W
R7217	1-218-970-11	METAL CHIP	27K	5%	1/16W
R7218	1-218-970-11	METAL CHIP	27K	5%	1/16W
R7219	1-218-964-11	METAL CHIP	8.2K	5%	1/16W
		< SWITCH >			
S7201	1-786-157-31	TACTILE SWITCH (STOP)			
S7202	1-786-157-31	TACTILE SWITCH (PLAY)			
S7203	1-786-157-31	TACTILE SWITCH (+ (VOLUME/MEMORY))			
S7204	1-786-157-31	TACTILE SWITCH (REW)			
S7205	1-786-157-31	TACTILE SWITCH (INDEX)			
S7206	1-786-157-31	TACTILE SWITCH (DISPLAY/BATT INFO)			
S7207	1-786-157-31	TACTILE SWITCH (RESET)			
S7208	1-786-157-31	TACTILE SWITCH (- (VOLUME/MEMORY))			
S7209	1-786-157-31	TACTILE SWITCH (REC 1)			
S7210	1-786-157-31	TACTILE SWITCH (DELETE)			
S7211	1-786-157-31	TACTILE SWITCH (REC 2)			
S7212	1-786-157-31	TACTILE SWITCH (DATA CODE)			
S7213	1-786-157-31	TACTILE SWITCH (PAUSE)			
S7214	1-786-157-31	TACTILE SWITCH (PLAY)			
S7215	1-786-157-31	TACTILE SWITCH (TC/U-BIT)			
S7216	1-786-157-31	TACTILE SWITCH (FF)			
S7217	1-786-157-31	TACTILE SWITCH (SLOW)			

Ref. No.	Part No.	Description			
		< VARISTOR >			
* VDR721	1-802-279-11	VARISTOR (SMD)			
* VDR722	1-802-279-11	VARISTOR (SMD)			
* VDR723	1-802-279-11	VARISTOR (SMD)			
* VDR724	1-802-279-11	VARISTOR (SMD)			
* VDR725	1-802-279-11	VARISTOR (SMD)			
	A-1599-610-A	MA-454 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C8301	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C8302	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8303	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C8304	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C8305	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C8306	1-100-966-91	CERAMIC CHIP	10uF	20%	10V
C8307	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8308	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8309	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8310	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C8311	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C8312	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C8313	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C8314	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C8315	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C8316	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C8317	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C8320	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C8321	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C8322	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8323	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8324	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8325	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8326	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8327	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
		< CONNECTOR >			
CN8301	1-778-507-21	PIN, CONNECTOR (PC BOARD) 4P			
CN8302	1-778-507-21	PIN, CONNECTOR (PC BOARD) 4P			
* CN8303	1-819-873-61	CONNECTOR, FPC (ZIF) 21P			
		< DIODE >			
D8301	8-719-064-07	DIODE SML-310LTT86 (REC LAMP (FRONT))			
		< IC >			
IC8301	6-707-702-01	IC NJM2746RB1 (TE2)			
IC8302	6-707-702-01	IC NJM2746RB1 (TE2)			
IC8303	6-707-702-01	IC NJM2746RB1 (TE2)			
IC8304	6-707-702-01	IC NJM2746RB1 (TE2)			
		< COIL >			
L8301	1-469-555-21	INDUCTOR	10uH		
		< RESISTOR >			
R8301	1-208-691-11	METAL CHIP	2.2K	0.50%	1/16W

Ref. No.	Part No.	Description			
R8302	1-208-691-11	METAL CHIP	2.2K	0.50%	1/16W
R8303	1-208-691-11	METAL CHIP	2.2K	0.50%	1/16W
R8304	1-208-691-11	METAL CHIP	2.2K	0.50%	1/16W
R8305	1-219-604-11	METAL CHIP	82K	0.50%	1/16W
R8306	1-208-719-11	METAL CHIP	33K	0.50%	1/16W
R8307	1-219-604-11	METAL CHIP	82K	0.50%	1/16W
R8308	1-208-719-11	METAL CHIP	33K	0.50%	1/16W
R8309	1-219-604-11	METAL CHIP	82K	0.50%	1/16W
R8310	1-208-719-11	METAL CHIP	33K	0.50%	1/16W
R8311	1-219-604-11	METAL CHIP	82K	0.50%	1/16W
R8312	1-208-719-11	METAL CHIP	33K	0.50%	1/16W
R8313	1-208-707-11	METAL CHIP	10K	0.50%	1/16W
R8314	1-208-707-11	METAL CHIP	10K	0.50%	1/16W
R8315	1-208-707-11	METAL CHIP	10K	0.50%	1/16W
R8316	1-208-707-11	METAL CHIP	10K	0.50%	1/16W
R8317	1-208-707-11	METAL CHIP	10K	0.50%	1/16W
R8318	1-208-707-11	METAL CHIP	10K	0.50%	1/16W
R8319	1-218-978-11	METAL CHIP	120K	5%	1/16W
R8320	1-208-931-11	METAL CHIP	68K	0.50%	1/16W
R8321	1-208-931-11	METAL CHIP	68K	0.50%	1/16W
R8322	1-218-978-11	METAL CHIP	120K	5%	1/16W
R8323	1-216-811-11	METAL CHIP	150	5%	1/10W

	A-1616-572-A	MD-141 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C5028	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C5029	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5030	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C5031	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5033	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5034	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C5035	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C5036	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C5037	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5038	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C5039	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5041	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5042	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C5043	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C5201	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5202	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C5203	1-137-704-91	TANTAL. CHIP	10uF	20%	10V
C5204	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5205	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5206	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C5207	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5208	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C5209	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5210	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5211	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5212	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5213	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5214	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5215	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5401	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			
C5402	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C5403	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5404	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5405	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5406	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5407	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5408	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C5409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5410	1-119-923-11	CAP, CERAMIC	0.047uF	10%	10V
C5411	1-119-923-11	CAP, CERAMIC	0.047uF	10%	10V
C5412	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5413	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5414	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5415	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5416	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5418	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5419	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5420	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5421	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C5422	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C5423	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C5424	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C5425	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5426	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C5427	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5428	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5429	1-100-566-91	CERAMIC CHIP	0.1uF	10%	25V
C5430	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C5431	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C5432	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5433	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C5434	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C5435	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5436	1-164-935-11	CERAMIC CHIP	470PF	10%	50V
C5437	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5438	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C5439	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
		< CONNECTOR >			
CN5001	1-817-920-11	CONNECTOR, FPC (ZIF) 80P			
* CN5201	1-816-643-51	FFC/FPC CONNECTOR (LIF) 10P			
* CN5401	1-818-818-81	CONNECTOR, FPC (ZIF) 29P			
* CN5402	1-816-643-51	FFC/FPC CONNECTOR (LIF) 10P			
* CN5403	1-817-829-81	CONNECTOR, FPC (ZIF) 27P			
		< DIODE >			
D5002	8-719-073-35	DIODE RB551V-30TE-17			
D5003	8-719-073-35	DIODE RB551V-30TE-17			
		< IC >			
* IC5003	6-713-575-01	IC LV5256GP-TE-L-E			
* IC5004	6-713-575-01	IC LV5256GP-TE-L-E			
IC5201	6-707-432-01	IC TLS26A102PFBR			
IC5401	6-707-428-01	IC BD6639BGLV-E2			
		< COIL >			
L5003	1-456-497-11	INDUCTOR	15uH		

Ref. No.	Part No.	Description			
L5004	1-456-501-11	INDUCTOR	33uH		
L5201	1-400-588-11	INDUCTOR	10uH		
L5202	1-400-588-11	INDUCTOR	10uH		
* L5401	1-400-411-21	INDUCTOR	4.7uH		
L5402	1-469-555-21	INDUCTOR	10uH		
		< TRANSISTOR >			
Q5401	6-550-242-01	TRANSISTOR	DTC114EMFS6T2L		
Q5402	6-550-174-01	TRANSISTOR	2SA2030T2L		
Q5403	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R		
		< RESISTOR >			
R5055	1-218-975-11	METAL CHIP	68K	5%	1/16W
R5060	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5062	1-218-959-11	METAL CHIP	3.3K	5%	1/16W
R5063	1-218-975-11	METAL CHIP	68K	5%	1/16W
R5064	1-218-975-11	METAL CHIP	68K	5%	1/16W
R5069	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5071	1-218-959-11	METAL CHIP	3.3K	5%	1/16W
R5072	1-218-975-11	METAL CHIP	68K	5%	1/16W
R5077	1-218-969-11	RES, CHIP	22K	5%	1/16W
R5078	1-218-969-11	RES, CHIP	22K	5%	1/16W
R5085	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R5086	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R5201	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5202	1-218-969-11	RES, CHIP	22K	5%	1/16W
R5203	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5204	1-218-963-11	METAL CHIP	6.8K	5%	1/16W
R5205	1-208-715-11	METAL CHIP	22K	0.50%	1/16W
R5206	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R5207	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R5209	1-208-715-11	METAL CHIP	22K	0.50%	1/16W
* R5210	1-208-869-11	METAL CHIP	180	0.50%	1/16W
* R5211	1-208-869-11	METAL CHIP	180	0.50%	1/16W
* R5212	1-208-869-11	METAL CHIP	180	0.50%	1/16W
* R5213	1-208-869-11	METAL CHIP	180	0.50%	1/16W
R5216	1-218-990-81	SHORT CHIP	0		
R5401	1-218-935-11	METAL CHIP	33	5%	1/16W
R5402	1-218-935-11	METAL CHIP	33	5%	1/16W
R5403	1-218-953-11	METAL CHIP	1K	5%	1/16W
R5404	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5405	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5406	1-218-953-11	METAL CHIP	1K	5%	1/16W
R5407	1-218-941-81	METAL CHIP	100	5%	1/16W
R5408	1-218-973-11	METAL CHIP	47K	5%	1/16W
R5409	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R5410	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R5411	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R5412	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5413	1-218-946-11	METAL CHIP	270	5%	1/16W
R5414	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5416	1-218-967-11	METAL CHIP	15K	5%	1/16W
R5417	1-218-935-11	METAL CHIP	33	5%	1/16W
R5418	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5419	1-218-965-11	METAL CHIP	10K	5%	1/16W
R5422	1-218-969-11	RES, CHIP	22K	5%	1/16W
R5423	1-218-961-11	METAL CHIP	4.7K	5%	1/16W

Ref. No.	Part No.	Description			
R5424	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
	A-1599-839-A	MS-405 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C8601	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8603	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		< CONNECTOR >			
CN8602	1-779-336-51	CONNECTOR, FFC/FPC 24P			
CN8603	1-817-913-41	MEMORY STICK DUO CONNECTOR			
* CN8605	1-779-327-51	CONNECTOR, FFC/FPC 6P			
* CN8606	1-779-329-51	CONNECTOR, FFC/FPC 10P			
		< DIODE >			
D8601	6-501-216-01	DIODE CL-271HR-C-TS (MS ACCESS)			
D8604	8-719-083-91	DIODE EDZ TE61 6.8B			
D8605	8-719-074-67	DIODE EDZ-TE61-5.6B			
		< FERRITE BEAD >			
FB8601	1-500-238-11	BEAD, FERRITE (CHIP) (1608)			
		< IC >			
* IC8601	6-708-445-01	IC R1114Q291D-TR-FA			
		< RESISTOR >			
R8601	1-218-943-11	METAL CHIP	150	5%	1/16W
R8602	1-218-953-11	METAL CHIP	1K	5%	1/16W
R8614	1-216-864-11	SHORT CHIP	0		
		< VARISTOR >			
* VDR007	1-802-279-11	VARISTOR (SMD)			
* VDR009	1-802-279-11	VARISTOR (SMD)			
* VDR010	1-802-279-11	VARISTOR (SMD)			
	A-1599-827-A	PD-372 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C6001	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6002	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6004	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6005	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6006	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6012	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6013	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6014	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C6015	1-100-581-81	CERAMIC CHIP	0.0047uF	10%	50V
C6016	1-119-923-11	CAP, CERAMIC	0.047uF	10%	10V
C6017	1-165-908-11	CERAMIC CHIP	1uF	10%	10V

Ref. No.	Part No.	Description			
C6018	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6019	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6020	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6021	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6022	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6023	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C6024	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6025	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6027	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C6028	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C6029	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C6030	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6031	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
* C6032	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
C6033	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6034	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6035	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6036	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C6037	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6038	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C6039	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C6040	1-127-861-11	CERAMIC CHIP	2.2uF	10%	16V
C6041	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6042	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6043	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6044	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C6045	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
		< CONNECTOR >			
CN6001	1-816-928-11	PIN, CONNECTOR 22P			
* CN6002	1-794-322-51	FFC/CONNECTOR, FPC (ZIF) 6P			
* CN6003	1-819-914-71	CONNECTOR, FPC (ZIF) 29P			
* CN6004	1-817-544-71	CONNECTOR, FPC (ZIF) 39P			
		< DIODE >			
D6001	8-719-069-29	DIODE RB520S-30FJTE61			
D6002	8-719-069-29	DIODE RB520S-30FJTE61			
		< FERRITE BEAD >			
FB6001	1-400-331-11	FERRITE, EMI (SMD) (1005)			
		< IC >			
* IC6001	6-712-180-01	IC IR3Y80Y6			
		< COIL >			
L6001	1-400-588-11	INDUCTOR	10uH		
L6002	1-400-588-11	INDUCTOR	10uH		
L6003	1-400-588-11	INDUCTOR	10uH		
L6004	1-400-588-11	INDUCTOR	10uH		
L6005	1-400-588-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q6001	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L		
Q6002	8-729-054-48	TRANSISTOR	HN1B04FE-Y1GR (TPLR3)		
Q6003	8-729-054-48	TRANSISTOR	HN1B04FE-Y1GR (TPLR3)		

Ref. No.	Part No.	Description			
		< RESISTOR >			
R6008	1-208-691-11	METAL CHIP	2.2K	0.50%	1/16W
R6009	1-208-695-11	METAL CHIP	3.3K	0.50%	1/16W
R6010	1-218-969-11	RES, CHIP	22K	5%	1/16W
R6011	1-208-643-11	METAL CHIP	22	0.50%	1/16W
R6012	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R6013	1-218-969-11	RES, CHIP	22K	5%	1/16W
R6014	1-218-967-11	METAL CHIP	15K	5%	1/16W
R6015	1-218-969-11	RES, CHIP	22K	5%	1/16W
R6018	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R6019	1-208-699-11	METAL CHIP	4.7K	0.50%	1/16W
R6020	1-218-990-81	SHORT CHIP	0		
R6021	1-218-977-11	METAL CHIP	100K	5%	1/16W
R6025	1-218-990-81	SHORT CHIP	0		
R6026	1-218-965-11	METAL CHIP	10K	5%	1/16W
R6027	1-218-965-11	METAL CHIP	10K	5%	1/16W

A-1616-348-A PI-029 BOARD, COMPLETE
****

(BT7001 is not included in PI-029 complete board.)

< BATTERY HOLDER >

⚠ BH7001 1-756-615-61 HOLDER, BATTERY (Note)

< BATTERY >

⚠ BT7001 1-756-134-12 BATTERY, STORAGE, LITHIUM (Note)

< CAPACITOR >

C7007	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7127	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7128	1-100-786-91	TANTAL. CHIP	22uF	20%	6.3V
C7130	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

< CONNECTOR >

CN7002	1-816-928-11	PIN, CONNECTOR 22P
CN7003	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P
CN7004	1-817-920-11	CONNECTOR, FPC (ZIF) 80P
CN7005	1-794-375-21	PIN, CONNECTOR 2P
* CN7006	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P
* CN7007	1-817-459-71	CONNECTOR, FPC (ZIF) 14P
* CN7011	1-817-698-81	CONNECTOR, FPC (ZIF) 21P
CN7012	1-816-655-61	CONNECTOR, FFC/FPC 8P
* CN7013	1-816-643-51	FFC/FPC CONNECTOR (LIF) 10P

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.
Dispose of used batteries according to the instructions.

Note: Replace the battery holder (BH7001) together when replacing the lithium storage battery (BT7001) on the PI-029 board. (The battery holder removed once cannot be used again.)
When mounting these parts, mount new battery holder first and attach new lithium battery next.

• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description			
		< IC >			
IC7003	6-707-702-01	IC NJM2746RB1 (TE2)			
IC7105	6-707-702-01	IC NJM2746RB1 (TE2)			
		< TRANSISTOR >			
Q7001	6-550-238-01	TRANSISTOR	DTA114EMFS6T2L		
Q7002	6-550-238-01	TRANSISTOR	DTA114EMFS6T2L		
Q7003	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q7004	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
Q7005	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L		
		< RESISTOR >			
R7005	1-218-990-81	SHORT CHIP	0		
R7006	1-218-990-81	SHORT CHIP	0		
R7013	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R7014	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R7015	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R7016	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R7019	1-216-864-11	SHORT CHIP	0		
R7143	1-219-602-11	METAL CHIP	68K	0.50%	1/16W
R7144	1-208-930-11	METAL CHIP	62K	0.50%	1/16W
R7145	1-218-990-81	SHORT CHIP	0		
		< VARISTOR >			
VDR701	1-801-862-11	VARISTOR, CHIP	(1608)		

	A-1739-733-A	VC-597 BOARD, COMPLETE (SERVICE)			
		**********			
(IC2402 and IC3804 are not supplied, but these are included in VC-597 complete board (service).)					
		< CAPACITOR >			
C1201	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1202	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1204	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1205	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1206	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1207	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1208	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1209	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1210	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1211	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1224	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C1225	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1401	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1402	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1403	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1404	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1405	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1406	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1407	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1408	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1410	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1411	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1412	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1413	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1414	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1415	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1416	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C1417	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C1418	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C1419	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1420	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C1421	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C1422	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C1426	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1427	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1428	1-164-854-11	CERAMIC CHIP	15PF	5%	50V
C1429	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C1435	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1601	1-100-786-91	TANTAL. CHIP	22uF	20%	6.3V
C1602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1603	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1604	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1605	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1606	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1607	1-100-786-91	TANTAL. CHIP	22uF	20%	6.3V
C1608	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1609	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1610	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1611	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1801	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C1802	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1803	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1804	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C1805	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1806	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1807	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1808	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1810	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1811	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1812	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1813	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1814	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1815	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1816	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1817	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1818	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1819	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1820	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1821	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1822	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C1823	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1824	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1825	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C1826	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C1827	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1828	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1829	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1830	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1831	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1833	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1834	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1835	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1836	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			
C1837	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1838	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1839	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1840	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1841	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1842	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2001	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2003	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C2004	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C2005	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C2006	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C2007	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C2008	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C2009	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C2010	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2011	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2012	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C2017	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2018	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C2019	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C2020	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C2021	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C2022	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C2023	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C2024	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C2026	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C2028	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C2029	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2031	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2206	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2207	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2209	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2210	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2211	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2212	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2213	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2214	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2215	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2217	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2218	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2219	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2220	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2221	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2222	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2223	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2224	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2225	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2226	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2227	1-100-842-91	TANTAL. CHIP	47uF	20%	6.3V
C2228	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2229	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2230	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2231	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2232	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			
C2233	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2234	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2235	1-100-842-91	TANTAL. CHIP	47uF	20%	6.3V
C2401	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C2402	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2403	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2405	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C2406	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
* C2601	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C2603	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2604	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C2605	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2606	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C2607	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C2608	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C2609	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2610	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2611	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2613	1-128-934-61	CERAMIC CHIP	0.33uF	10%	10V
C2614	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2615	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C2616	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C2619	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2620	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2621	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2622	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2623	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2624	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2625	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2626	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2627	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2628	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3401	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3402	1-112-001-81	CERAMIC CHIP	270PF	5%	50V
C3403	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
* C3404	1-112-746-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3405	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3407	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3410	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3411	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
C3412	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
C3414	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3415	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3416	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3418	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3420	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C3601	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C3602	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3603	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3604	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3609	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3611	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3612	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3624	1-100-415-91	CERAMIC CHIP	0.47uF	10%	6.3V
C3625	1-164-874-11	CERAMIC CHIP	100PF	5%	50V

Ref. No.	Part No.	Description			
C3627	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3629	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3630	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3632	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3633	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C3634	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C3635	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C3801	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3802	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3803	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C3804	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3805	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3808	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C3810	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3811	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4001	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C4002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4004	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4005	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4006	1-164-852-11	CERAMIC CHIP	12PF	5%	50V
C4007	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4008	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4011	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4012	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4013	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4014	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4201	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4204	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4205	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4206	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4207	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4209	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4210	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4211	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4212	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4213	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4227	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4234	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4235	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4401	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4403	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4405	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4406	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4407	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	50V
C4408	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4410	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4411	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4412	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4413	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4415	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4416	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4601	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4602	1-165-908-11	CERAMIC CHIP	1uF	10%	10V

Ref. No.	Part No.	Description			
C4603	1-119-923-11	CERAMIC CHIP	0.047uF	10%	10V
C4604	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4605	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4606	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4607	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4608	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4610	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4611	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4612	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4613	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4614	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4615	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4616	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4617	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C4618	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4619	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C4620	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4621	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4622	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4623	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4624	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4625	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4626	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4627	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4628	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4629	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4630	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4631	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4632	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4633	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4634	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4635	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4636	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C4637	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
* C4638	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C4639	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C4640	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V
C4641	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4642	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4643	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4644	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4646	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4649	1-127-820-11	CERAMIC CHIP	4.7uF	10%	16V
C4650	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
* C4652	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C4653	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4654	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4659	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C4662	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
* C4663	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
* C4664	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C4665	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C4666	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C4670	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4671	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4672	1-127-820-11	CERAMIC CHIP	4.7uF	10%	16V

Ref. No.	Part No.	Description			
C4678	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4679	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C4680	1-164-933-11	CERAMIC CHIP	220PF	10%	50V
C4681	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4683	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4684	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4687	1-100-591-91	CERAMIC CHIP	1uF	10%	25V
C4692	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4707	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4709	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C4710	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4726	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C4728	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4729	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4730	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4740	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4741	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4742	1-127-820-11	CERAMIC CHIP	4.7uF	10%	16V
C4744	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4746	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4747	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C4748	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4749	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C4751	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C5008	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C5010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5016	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5022	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C5023	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C5024	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5025	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C5026	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C5027	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C6001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6002	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C6003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6004	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C6005	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C6006	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6007	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6008	1-165-897-11	TANTAL. CHIP	22uF	20%	10V
C6009	1-165-897-11	TANTAL. CHIP	22uF	20%	10V
C6010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6012	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6014	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C6015	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C6016	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C6017	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C6018	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6020	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C6022	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C6023	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C6024	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C6025	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C6501	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6502	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			
C6503	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6505	1-137-704-91	TANTAL. CHIP	10uF	20%	10V
C6506	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6507	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6508	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C6509	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
C6510	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6511	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C6512	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6513	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C7001	1-100-844-91	TANTAL. CHIP	22uF	20%	10V
C7002	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C7003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7004	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7005	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7006	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C7008	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7009	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C7015	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C7016	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8001	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C8002	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C8003	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C8004	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8005	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C8006	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C8007	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C8008	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
* C8009	1-112-298-91	CERAMIC CHIP	1uF	10%	16V
C8010	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C8011	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C8012	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8013	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C8015	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C8016	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V
C8017	1-100-597-91	CERAMIC CHIP	0.1uF	10%	25V
C8018	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8019	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C8020	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C8021	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8023	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8024	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C8025	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C8026	1-100-539-91	TANTAL. CHIP	47uF	20%	6.3V
C8027	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C8028	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8029	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C8030	1-127-760-11	CERAMIC CHIP	4.7uF	10%	6.3V
C8031	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C8032	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C8034	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8036	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C8037	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C8038	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8039	1-137-934-91	TANTAL. CHIP	47uF	20%	10V
C8040	1-128-964-91	TANTAL. CHIP	100uF	20%	6.3V
C8041	1-125-889-11	CERAMIC CHIP	2.2uF	10%	10V

Ref. No.	Part No.	Description			
C8042	1-128-964-91	TANTAL. CHIP	100uF	20%	6.3V
C8043	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C8044	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C8045	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C8046	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8047	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8050	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8051	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8052	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8053	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8054	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8055	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C8056	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C8057	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C8058	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8059	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8060	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8061	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8062	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8063	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8064	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8065	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8066	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8067	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8068	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8069	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8070	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8071	1-165-989-11	CERAMIC CHIP	10uF	10%	6.3V
C8072	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8073	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8074	1-137-934-91	TANTAL. CHIP	47uF	20%	10V
C8090	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C8091	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C8092	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C8093	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C8094	1-164-382-11	CERAMIC CHIP	91PF	5%	50V
C8095	1-164-382-11	CERAMIC CHIP	91PF	5%	50V
C8096	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8097	1-128-964-91	TANTAL. CHIP	100uF	20%	6.3V
C8100	1-164-382-11	CERAMIC CHIP	91PF	5%	50V
C8101	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C8102	1-164-382-11	CERAMIC CHIP	91PF	5%	50V
C8103	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C8109	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C8110	1-114-238-91	CERAMIC CHIP	22uF	20%	10V
C8111	1-112-717-91	CERAMIC CHIP	1uF	10%	6.3V
C8112	1-127-820-11	CERAMIC CHIP	4.7uF	10%	16V
C8115	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8116	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C8117	1-164-874-11	CERAMIC CHIP	100PF	5%	50V
C8118	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C8119	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
		< CONNECTOR >			
CN1001	1-817-920-11	CONNECTOR, FPC (ZIF) 80P			
CN1004	1-816-648-61	FFC/FPC CONNECTOR (LIF) 20P (CPC)			

Ref. No.	Part No.	Description
* CN1008	1-817-544-71	CONNECTOR, FPC (ZIF) 39P
CN1011	1-816-655-61	CONNECTOR, FFC/FPC 8P
CN1012	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P
CN1014	1-816-648-61	FFC/FPC CONNECTOR (LIF) 20P
CN1015	1-817-920-11	CONNECTOR, FPC (ZIF) 80P
CN1016	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P
* CN1201	1-822-221-11	CONNECTOR, COAXIAL (RECEPTACLE)
* CN1202	1-822-221-11	CONNECTOR, COAXIAL (RECEPTACLE)
* CN1203	1-822-221-11	CONNECTOR, COAXIAL (RECEPTACLE)
CN4601	1-580-057-11	PIN, CONNECTOR (SMD) 4P
CN4602	1-580-056-21	PIN, CONNECTOR (SMD) 3P
* CN5001	1-819-873-61	CONNECTOR, FPC (ZIF) 21P
* CN5002	1-817-283-71	CONNECTOR, FPC (ZIF) 51P
CN5003	1-816-643-51	FFC/FPC CONNECTOR (LIF) 10P
		< DIODE >
* D4201	6-501-947-01	DIODE MA2S1110G8S0
* D4202	6-501-947-01	DIODE MA2S1110G8S0
* D4203	6-501-947-01	DIODE MA2S1110G8S0
* D4204	6-501-947-01	DIODE MA2S1110G8S0
D4602	8-719-027-76	DIODE 1SS357-TPH3
* D4603	6-502-146-01	DIODE MA2S7280G8S0
D4604	6-502-150-01	DIODE MA2SD320G8S0
D4605	8-719-074-08	DIODE MA4ZD03001S0
D4607	6-502-150-01	DIODE MA2SD320G8S0
D4608	6-502-150-01	DIODE MA2SD320G8S0
* D4612	6-501-961-01	DIODE MAZS120G08S0
* D4613	6-501-961-01	DIODE MAZS120G08S0
D4619	8-719-074-67	DIODE EDZ-TE61-5.6B
D4620	8-719-074-67	DIODE EDZ-TE61-5.6B
D4621	8-719-027-76	DIODE 1SS357-TPH3
D4622	8-719-081-19	DIODE 1SS383 (T5RSONY1)
D8002	8-719-056-23	DIODE MA2S111-(K8).SO
		< FUSE >
⚠ F4601	1-576-406-31	FUSE (1.4A/32V)
⚠ F4603	1-576-406-31	FUSE (1.4A/32V)
⚠ F4604	1-576-406-31	FUSE (1.4A/32V)
⚠ F4605	1-576-406-31	FUSE (1.4A/32V)
⚠ F4606	1-576-406-31	FUSE (1.4A/32V)
⚠ F4607	1-576-406-31	FUSE (1.4A/32V)
⚠ F4608	1-576-406-31	FUSE (1.4A/32V)
		< FERRITE BEAD >
FB1401	1-500-238-11	BEAD, FERRITE (CHIP) (1608)
FB1402	1-500-238-11	BEAD, FERRITE (CHIP) (1608)
FB1403	1-500-238-11	BEAD, FERRITE (CHIP) (1608)
FB1405	1-481-250-11	INDUCTOR, FERRITE BEAD (1005)
FB1406	1-400-620-21	INDUCTOR, FERRITE BEAD (1005)
FB1601	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB1602	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB1801	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB1802	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB1803	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB2001	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB2002	1-400-331-11	FERRITE, EMI (SMD) (1005)

• Refer to page 5-1 for mark ⚠.

Ref. No.	Part No.	Description
FB2401	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB3401	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB3601	1-469-581-21	INDUCTOR, FERRITE BEAD (1005)
FB3602	1-400-723-11	INDUCTOR, FERRITE BEAD (1005)
FB3606	1-400-723-11	INDUCTOR, FERRITE BEAD (1005)
FB3607	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB3608	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB3610	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB3801	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB3802	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB3803	1-469-082-21	INDUCTOR, FERRITE BEAD (1005)
FB4202	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB4401	1-400-619-11	BEAD, FERRITE (CHIP) (1608)
FB6001	1-500-238-11	BEAD, FERRITE (CHIP) (1608)
FB6501	1-500-238-11	BEAD, FERRITE (CHIP) (1608)
		< IC >
IC1201	6-703-977-01	IC R1114Q331D-TR-FA
IC1202	6-703-977-01	IC R1114Q331D-TR-FA
IC1203	6-703-976-01	IC R1114Q181D-TR-FA
IC1204	6-703-976-01	IC R1114Q181D-TR-FA
IC1205	6-703-976-01	IC R1114Q181D-TR-FA
IC1209	6-703-976-01	IC R1114Q181D-TR-FA
* IC1401	6-710-308-01	IC CXD9891GG
* IC1601	6-712-228-01	IC K4M51323LC-DN75T
* IC1602	6-714-589-01	IC FMS8B16LBH-60AER
* IC1801	6-710-743-01	IC S4DF006X02-Y071-K12K4C
IC2001	6-708-108-01	IC TLS26A100PFBR
* IC2002	6-707-959-01	IC AN12920AAVB
* IC2201	8-753-276-37	IC CXD3195AGG-T6
* IC2401	6-714-015-01	IC K4X56323PL-8GC6T
IC2402	(Not supplied)	IC SST39VF1682-70-4I-B3KE-T
(IC2402 is supplied included in VC-597 complete board (service).)		
* IC2601	6-710-783-01	IC MB8AA1121BGL-G-ERE1
* IC3401	6-710-516-01	IC SN200507002ZZCR
* IC3601	6-710-594-01	IC S4LFS33X0-Y070
IC3804	(Not supplied)	IC S99-50031-33-ER
(IC3804 is supplied included in VC-597 complete board (service).)		
IC3805	6-702-356-01	IC AK6512CL-L
IC3806	6-707-634-01	IC W9816G6CB-7-ER20
* IC4001	6-808-391-01	IC MB95005ABGL-G-119-ERE1
* IC4201	6-808-662-01	IC MB91195ABGL-G-266-ERE1
* IC4202	6-706-013-01	IC AK6514CF-E2
* IC4401	6-714-681-01	IC MB91195ABGL-G-274-ERE1
* IC4601	6-710-636-01	IC MB44C005BBGL-G-ERE1
IC4603	6-708-133-01	IC TK72130CSCL-G
IC4606	6-707-208-01	IC TK11100CSCB-G
* IC4607	6-708-464-01	IC R1114Q251D-TR-FA
IC4611	8-759-581-11	IC NJM2125F (TE2)
IC4612	6-703-977-01	IC R1114Q331D-TR-FA
* IC5003	6-708-444-01	IC R1114Q281D-TR-FA
IC5004	6-707-208-01	IC TK11100CSCB-G
* IC6001	6-807-895-01	IC BU2343AGLU-E2
IC6002	8-759-681-42	IC NJM12902V (TE2)
* IC6501	6-807-895-01	IC BU2343AGLU-E2
* IC7001	6-709-026-01	IC R2J30500LG
IC8002	6-703-228-01	IC TK11160CSCL-G

Ref. No.	Part No.	Description
IC8003	6-702-527-01	IC AK5380VT-E2
IC8004	6-704-682-01	IC AK4384VT-E2
IC8005	8-759-529-76	IC TC74VHC595FT (EL)
IC8006	6-707-879-01	IC TC74VHC541FT (EKJ)
* IC8007	6-713-574-01	IC R2A15219FP
IC8012	6-707-208-01	IC TK11100CSCB-G
		< COIL >
L1401	1-469-555-21	INDUCTOR 10uH
L1402	1-469-555-21	INDUCTOR 10uH
L1403	1-469-555-21	INDUCTOR 10uH
L1404	1-400-353-21	INDUCTOR 22uH
L1801	1-400-676-11	INDUCTOR 22uH
L1802	1-400-675-11	INDUCTOR 10uH
L1803	1-400-588-11	INDUCTOR 10uH
L1804	1-400-588-11	INDUCTOR 10uH
L1805	1-400-676-11	INDUCTOR 22uH
L2001	1-400-588-11	INDUCTOR 10uH
L2002	1-400-588-11	INDUCTOR 10uH
L2003	1-400-588-11	INDUCTOR 10uH
L2006	1-400-588-11	INDUCTOR 10uH
L2202	1-400-676-11	INDUCTOR 22uH
L2203	1-400-676-11	INDUCTOR 22uH
L2204	1-400-676-11	INDUCTOR 22uH
L2205	1-400-676-11	INDUCTOR 22uH
L2601	1-400-675-11	INDUCTOR 10uH
L2602	1-400-675-11	INDUCTOR 10uH
L2603	1-400-675-11	INDUCTOR 10uH
L3401	1-400-588-11	INDUCTOR 10uH
L4601	1-456-136-21	INDUCTOR 10uH
L4602	1-456-497-11	INDUCTOR 15uH
L4603	1-456-497-11	INDUCTOR 15uH
L4604	1-456-136-21	INDUCTOR 10uH
L4605	1-456-497-11	INDUCTOR 15uH
L4606	1-456-136-21	INDUCTOR 10uH
L4607	1-456-497-11	INDUCTOR 15uH
L4608	1-456-497-11	INDUCTOR 15uH
L4609	1-456-497-11	INDUCTOR 15uH
L4610	1-469-549-21	INDUCTOR 1uH
L4611	1-456-498-11	INDUCTOR 47uH
L4612	1-469-549-21	INDUCTOR 1uH
L4613	1-469-551-21	INDUCTOR 2.2uH
L4615	1-469-549-21	INDUCTOR 1uH
L4616	1-469-561-21	INDUCTOR 100uH
L4618	1-469-555-21	INDUCTOR 10uH
L4622	1-469-555-21	INDUCTOR 10uH
L4623	1-469-555-21	INDUCTOR 10uH
L4624	1-469-549-21	INDUCTOR 1uH
L4625	1-469-549-21	INDUCTOR 1uH
L4626	1-469-549-21	INDUCTOR 1uH
L4627	1-469-549-21	INDUCTOR 1uH
L5004	1-469-555-21	INDUCTOR 10uH
L5007	1-469-555-21	INDUCTOR 10uH
L6001	1-469-845-11	INDUCTOR 4.7uH
L6501	1-469-757-21	INDUCTOR 10uH
L7001	1-400-837-11	INDUCTOR 2.2uH

Ref. No.	Part No.	Description	
L7002	1-469-967-21	INDUCTOR	10uH
L8001	1-400-588-11	INDUCTOR	10uH
* L8002	1-457-690-11	INDUCTOR	33uH
* L8003	1-457-690-11	INDUCTOR	33uH
L8004	1-400-588-11	INDUCTOR	10uH
L8005	1-400-676-11	INDUCTOR	22uH
L8006	1-400-588-11	INDUCTOR	10uH
L8007	1-400-588-11	INDUCTOR	10uH
L8009	1-400-588-11	INDUCTOR	10uH
		< LINE FILTER >	
LF3404	1-457-064-13	COMMON MODE CHOKE COIL	
* LF4601	1-457-217-21	COMMON MODE CHOKE COIL	
		< TRANSISTOR >	
Q2001	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2002	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2003	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2004	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2005	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2006	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2007	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2008	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q2009	6-550-232-01	TRANSISTOR	2SA2029FS6T2LQ/R
Q3601	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q3602	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R
Q3603	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q3604	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L
Q3605	8-729-053-54	TRANSISTOR	HN1A01FE-Y/GR (TPLR3)
Q3606	6-550-174-01	TRANSISTOR	2SA2030T2L
* Q4601	6-551-796-01	TRANSISTOR	UNR92A3G08S0
Q4602	6-551-792-01	TRANSISTOR	UNR91ABG08S0
Q4603	8-729-056-72	TRANSISTOR	MCH5805-TL-E
Q4604	8-729-056-02	TRANSISTOR	MCH5804-TL-E
Q4615	6-551-115-01	TRANSISTOR	ECH8631-S-TL-E
Q4616	8-729-047-68	TRANSISTOR	SSM3K03FE (TPL3)
Q4617	8-729-047-68	TRANSISTOR	SSM3K03FE (TPL3)
Q4618	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q4619	8-729-043-60	TRANSISTOR	CPH6102-TL-E
* Q5001	6-551-881-01	TRANSISTOR	2SA2174GR8S0
* Q5002	6-551-881-01	TRANSISTOR	2SA2174GR8S0
* Q5004	6-551-881-01	TRANSISTOR	2SA2174GR8S0
Q5005	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
* Q7001	6-551-796-01	TRANSISTOR	UNR92A3G08S0
* Q7002	6-551-881-01	TRANSISTOR	2SA2174GR8S0
* Q7003	6-551-796-01	TRANSISTOR	UNR92A3G08S0
* Q7004	6-551-881-01	TRANSISTOR	2SA2174GR8S0
Q8001	8-729-202-38	TRANSISTOR	2SC3326N-A
Q8002	8-729-202-38	TRANSISTOR	2SC3326N-A
Q8003	8-729-202-38	TRANSISTOR	2SC3326N-A
Q8004	8-729-202-38	TRANSISTOR	2SC3326N-A
Q8005	8-729-202-38	TRANSISTOR	2SC3326N-A
Q8006	8-729-202-38	TRANSISTOR	2SC3326N-A
Q8007	6-550-242-01	TRANSISTOR	DTC114EMFS6T2L
Q8014	6-551-184-01	TRANSISTOR	MCH6305-TL-E-S
Q8015	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R

Ref. No.	Part No.	Description			
		< RESISTOR >			
R1036	1-218-953-11	METAL CHIP	1K	5%	1/16W
R1037	1-218-953-11	METAL CHIP	1K	5%	1/16W
R1045	1-216-817-11	METAL CHIP	470	5%	1/10W
R1046	1-216-817-11	METAL CHIP	470	5%	1/10W
R1055	1-218-990-81	SHORT CHIP	0		
R1056	1-218-990-81	SHORT CHIP	0		
R1057	1-218-990-81	SHORT CHIP	0		
R1058	1-218-949-11	METAL CHIP	470	5%	1/16W
R1061	1-216-864-11	SHORT CHIP	0		
R1309	1-218-990-81	SHORT CHIP	0		
R1310	1-218-990-81	SHORT CHIP	0		
R1311	1-218-990-81	SHORT CHIP	0		
R1401	1-218-953-11	METAL CHIP	1K	5%	1/16W
R1404	1-218-977-11	METAL CHIP	100K	5%	1/16W
R1405	1-218-933-11	METAL CHIP	22	5%	1/16W
R1407	1-218-940-11	METAL CHIP	82	5%	1/16W
R1408	1-218-953-11	METAL CHIP	1K	5%	1/16W
R1412	1-218-990-81	SHORT CHIP	0		
R1414	1-218-990-81	SHORT CHIP	0		
R1418	1-216-864-11	SHORT CHIP	0		
R1421	1-218-990-81	SHORT CHIP	0		
R1422	1-218-977-11	METAL CHIP	100K	5%	1/16W
R1424	1-218-990-81	SHORT CHIP	0		
R1426	1-218-973-11	METAL CHIP	47K	5%	1/16W
R1427	1-218-990-81	SHORT CHIP	0		
R1431	1-218-990-81	SHORT CHIP	0		
R1604	1-218-990-81	SHORT CHIP	0		
R1805	1-218-977-11	METAL CHIP	100K	5%	1/16W
R1807	1-218-990-81	SHORT CHIP	0		
R1808	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R1809	1-218-935-11	METAL CHIP	33	5%	1/16W
R1812	1-218-935-11	METAL CHIP	33	5%	1/16W
R1813	1-218-941-81	METAL CHIP	100	5%	1/16W
R1814	1-218-953-11	METAL CHIP	1K	5%	1/16W
R1815	1-218-941-81	METAL CHIP	100	5%	1/16W
R1816	1-218-990-81	SHORT CHIP	0		
R1817	1-218-929-11	METAL CHIP	10	5%	1/16W
R1818	1-218-935-11	METAL CHIP	33	5%	1/16W
R1819	1-218-965-11	METAL CHIP	10K	5%	1/16W
R1821	1-218-990-81	SHORT CHIP	0		
R1822	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R1823	1-218-990-81	SHORT CHIP	0		
R1825	1-218-990-81	SHORT CHIP	0		
R1827	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R1829	1-218-973-11	METAL CHIP	47K	5%	1/16W
R1831	1-218-990-81	SHORT CHIP	0		
R1832	1-218-935-11	METAL CHIP	33	5%	1/16W
R1833	1-218-965-11	METAL CHIP	10K	5%	1/16W
* R2001	1-208-869-11	METAL CHIP	180	0.5%	1/16W
* R2002	1-208-869-11	METAL CHIP	180	0.5%	1/16W
* R2003	1-208-869-11	METAL CHIP	180	0.5%	1/16W
R2004	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2005	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2006	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2007	1-208-677-11	METAL CHIP	560	0.5%	1/16W

Ref. No.	Part No.	Description			
R2008	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2009	1-208-677-11	METAL CHIP	560	0.5%	1/16W
R2013	1-218-953-11	METAL CHIP	1K	5%	1/16W
R2014	1-218-953-11	METAL CHIP	1K	5%	1/16W
R2015	1-218-953-11	METAL CHIP	1K	5%	1/16W
R2016	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2017	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2018	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2019	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2020	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2021	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2022	1-208-860-81	METAL CHIP	75	0.5%	1/16W
R2023	1-208-860-81	METAL CHIP	75	0.5%	1/16W
R2024	1-208-860-81	METAL CHIP	75	0.5%	1/16W
R2207	1-218-933-11	METAL CHIP	22	5%	1/16W
R2208	1-218-941-81	METAL CHIP	100	5%	1/16W
R2209	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2210	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2212	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2213	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2214	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2215	1-218-990-81	SHORT CHIP	0		
R2217	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2218	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2219	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2220	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2221	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2222	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2223	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2224	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2226	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2228	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2230	1-218-935-11	METAL CHIP	33	5%	1/16W
R2231	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2233	1-218-990-81	SHORT CHIP	0		
R2235	1-218-990-81	SHORT CHIP	0		
R2236	1-218-990-81	SHORT CHIP	0		
R2238	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R2240	1-218-990-81	SHORT CHIP	0		
R2241	1-216-295-91	SHORT CHIP	0		
R2402	1-218-990-81	SHORT CHIP	0		
R2605	1-218-941-81	METAL CHIP	100	5%	1/16W
R2607	1-218-941-81	METAL CHIP	100	5%	1/16W
R2609	1-218-990-81	SHORT CHIP	0		
R2610	1-218-990-81	SHORT CHIP	0		
R2612	1-218-953-11	METAL CHIP	1K	5%	1/16W
R2613	1-218-953-11	METAL CHIP	1K	5%	1/16W
R2619	1-218-990-81	SHORT CHIP	0		
R2620	1-218-990-81	SHORT CHIP	0		
R2622	1-218-953-11	METAL CHIP	1K	5%	1/16W
R2624	1-218-990-81	SHORT CHIP	0		
R3302	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R3304	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R3401	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3402	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3403	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R3404	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R3405	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R3406	1-208-652-11	METAL CHIP	51	0.5%	1/16W
R3407	1-218-990-81	SHORT CHIP	0		
R3408	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3409	1-208-906-81	METAL CHIP	6.2K	0.5%	1/16W
R3410	1-218-990-81	SHORT CHIP	0		
R3411	1-218-990-81	SHORT CHIP	0		
R3412	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3413	1-218-990-81	SHORT CHIP	0		
R3601	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3602	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3605	1-218-973-11	METAL CHIP	47K	5%	1/16W
R3606	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3607	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3608	1-218-985-11	METAL CHIP	470K	5%	1/16W
R3609	1-218-985-11	METAL CHIP	470K	5%	1/16W
R3613	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3614	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3616	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3617	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3618	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3627	1-218-941-81	METAL CHIP	100	5%	1/16W
R3628	1-218-933-11	METAL CHIP	22	5%	1/16W
R3631	1-218-985-11	METAL CHIP	470K	5%	1/16W
R3632	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3633	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3634	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3635	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3636	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3637	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3638	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3639	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3640	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3641	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3642	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3643	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3644	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3645	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3646	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3647	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3648	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3649	1-218-965-11	METAL CHIP	10K	5%	1/16W
R3650	1-218-959-11	METAL CHIP	3.3K	5%	1/16W
R3651	1-218-959-11	METAL CHIP	3.3K	5%	1/16W
R3653	1-218-940-11	METAL CHIP	82	5%	1/16W
R3655	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3661	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3663	1-218-955-11	METAL CHIP	1.5K	5%	1/16W
R3664	1-218-962-11	METAL CHIP	5.6K	5%	1/16W
R3665	1-218-959-11	METAL CHIP	3.3K	5%	1/16W
R3666	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R3668	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R3673	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3676	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3677	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3678	1-218-953-11	METAL CHIP	1K	5%	1/16W
R3801	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3802	1-218-977-11	METAL CHIP	100K	5%	1/16W

Ref. No.	Part No.	Description			
R3803	1-218-941-81	METAL CHIP	100	5%	1/16W
R3806	1-218-977-11	METAL CHIP	100K	5%	1/16W
R3807	1-218-941-81	METAL CHIP	100	5%	1/16W
R3808	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4002	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4003	1-218-949-11	METAL CHIP	470	5%	1/16W
R4004	1-218-973-11	METAL CHIP	47K	5%	1/16W
R4006	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R4007	1-219-570-11	METAL CHIP	10M	5%	1/10W
R4008	1-218-990-81	SHORT CHIP	0		
R4009	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R4010	1-208-893-11	METAL CHIP	1.8K	0.5%	1/16W
R4012	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4013	1-218-945-11	METAL CHIP	220	5%	1/16W
R4015	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4016	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4017	1-218-989-11	METAL CHIP	1M	5%	1/16W
R4018	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4020	1-218-959-11	METAL CHIP	3.3K	5%	1/16W
R4021	1-218-967-11	METAL CHIP	15K	5%	1/16W
R4022	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R4023	1-218-985-11	METAL CHIP	470K	5%	1/16W
R4025	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R4026	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R4027	1-218-989-11	METAL CHIP	1M	5%	1/16W
R4028	1-216-845-11	METAL CHIP	100K	5%	1/10W
R4029	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4030	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4031	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4032	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4033	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4034	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4035	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4202	1-218-990-81	SHORT CHIP	0		
R4203	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4205	1-218-990-81	SHORT CHIP	0		
R4206	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4207	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4208	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4209	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4210	1-218-941-81	METAL CHIP	100	5%	1/16W
R4211	1-218-990-81	SHORT CHIP	0		
R4212	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4213	1-218-990-81	SHORT CHIP	0		
R4215	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4216	1-218-985-11	METAL CHIP	470K	5%	1/16W
R4217	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4218	1-218-989-11	METAL CHIP	1M	5%	1/16W
R4219	1-218-989-11	METAL CHIP	1M	5%	1/16W
R4220	1-218-973-11	METAL CHIP	47K	5%	1/16W
R4223	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4250	1-218-990-81	SHORT CHIP	0		
R4251	1-218-990-81	SHORT CHIP	0		
R4253	1-218-990-81	SHORT CHIP	0		
R4254	1-218-990-81	SHORT CHIP	0		
R4255	1-218-990-81	SHORT CHIP	0		
R4270	1-218-953-11	METAL CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			
R4271	1-218-989-11	METAL CHIP	1M	5%	1/16W
R4272	1-218-989-11	METAL CHIP	1M	5%	1/16W
R4273	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4274	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4279	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4280	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4281	1-218-972-11	METAL CHIP	39K	5%	1/16W
R4282	1-218-972-11	METAL CHIP	39K	5%	1/16W
R4284	1-218-990-81	SHORT CHIP	0		
R4287	1-218-990-81	SHORT CHIP	0		
R4289	1-218-990-81	SHORT CHIP	0		
R4401	1-218-941-81	METAL CHIP	100	5%	1/16W
R4402	1-218-990-81	SHORT CHIP	0		
R4403	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4405	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4406	1-218-990-81	SHORT CHIP	0		
R4413	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4414	1-218-965-11	METAL CHIP	10K	5%	1/16W
R4415	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4418	1-218-985-11	METAL CHIP	470K	5%	1/16W
R4420	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4421	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4423	1-218-985-11	METAL CHIP	470K	5%	1/16W
R4424	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4427	1-218-981-91	METAL CHIP	220K	5%	1/16W
R4428	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4429	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4430	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4431	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4432	1-218-975-11	METAL CHIP	68K	5%	1/16W
R4437	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4438	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4439	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4440	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4442	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4443	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4446	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4601	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R4604	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R4606	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R4607	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R4608	1-218-941-81	METAL CHIP	100	5%	1/16W
R4610	1-218-944-11	METAL CHIP	180	5%	1/16W
R4611	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R4612	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R4613	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R4614	1-218-969-11	METAL CHIP	22K	5%	1/16W
R4615	1-218-987-11	METAL CHIP	680K	5%	1/16W
R4616	1-218-979-11	METAL CHIP	150K	5%	1/16W
R4617	1-218-947-11	METAL CHIP	330	5%	1/16W
R4618	1-218-969-11	METAL CHIP	22K	5%	1/16W
R4619	1-218-969-11	METAL CHIP	22K	5%	1/16W
R4620	1-218-989-11	METAL CHIP	1M	5%	1/16W
R4637	1-216-295-91	SHORT CHIP	0		
R4638	1-216-295-91	SHORT CHIP	0		
R4650	1-216-295-91	SHORT CHIP	0		
R4653	1-208-935-11	METAL CHIP	100K	0.5%	1/16W

Ref. No.	Part No.	Description			
R4655	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R4668	1-218-958-11	METAL CHIP	2.7K	5%	1/16W
R4669	1-208-889-11	METAL CHIP	1.2K	0.5%	1/16W
R4677	1-216-295-91	SHORT CHIP	0		
R4695	1-216-295-91	SHORT CHIP	0		
R4714	1-216-295-91	SHORT CHIP	0		
R4723	1-218-989-11	METAL CHIP	1M	5%	1/16W
R4725	1-216-821-11	METAL CHIP	1K	5%	1/10W
R4726	1-218-977-11	METAL CHIP	100K	5%	1/16W
R4727	1-216-150-91	METAL CHIP	10	5%	1/8W
R4728	1-218-953-11	METAL CHIP	1K	5%	1/16W
R4729	1-218-961-11	METAL CHIP	4.7K	5%	1/16W
R4730	1-216-295-91	SHORT CHIP	0		
R4734	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R4735	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R4738	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R4739	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R4742	1-216-864-11	SHORT CHIP	0		
R4744	1-216-864-11	SHORT CHIP	0		
R4747	1-218-975-11	METAL CHIP	68K	5%	1/16W
R5100	1-218-973-11	METAL CHIP	47K	5%	1/16W
R5101	1-218-953-11	METAL CHIP	1K	5%	1/16W
R5102	1-218-973-11	METAL CHIP	47K	5%	1/16W
R5104	1-218-953-11	METAL CHIP	1K	5%	1/16W
R5105	1-218-953-11	METAL CHIP	1K	5%	1/16W
R5107	1-218-973-11	METAL CHIP	47K	5%	1/16W
R5117	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R5118	1-208-703-11	METAL CHIP	6.8K	0.5%	1/16W
R5119	1-208-711-11	METAL CHIP	15K	0.5%	1/16W
R6016	1-208-689-11	METAL CHIP	1.8K	0.5%	1/16W
R6017	1-208-689-11	METAL CHIP	1.8K	0.5%	1/16W
R6019	1-208-689-11	METAL CHIP	1.8K	0.5%	1/16W
R6020	1-208-689-11	METAL CHIP	1.8K	0.5%	1/16W
R6021	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R6022	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R6023	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R6024	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R6026	1-218-958-11	METAL CHIP	2.7K	5%	1/16W
R6027	1-218-958-11	METAL CHIP	2.7K	5%	1/16W
R6028	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R6029	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R6030	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R6032	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R6041	1-218-990-81	SHORT CHIP	0		
R6045	1-218-990-81	SHORT CHIP	0		
R6046	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R6047	1-218-965-11	METAL CHIP	10K	5%	1/16W
R6048	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R6049	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R6050	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R6051	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R6054	1-218-958-11	METAL CHIP	2.7K	5%	1/16W
R6055	1-218-958-11	METAL CHIP	2.7K	5%	1/16W
R6510	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R6511	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R6516	1-218-956-11	METAL CHIP	1.8K	5%	1/16W
R6518	1-218-956-11	METAL CHIP	1.8K	5%	1/16W

Ref. No.	Part No.	Description			
R6520	1-218-990-81	SHORT CHIP	0		
R6526	1-218-972-11	METAL CHIP	39K	5%	1/16W
R6527	1-218-956-11	METAL CHIP	1.8K	5%	1/16W
R6529	1-218-972-11	METAL CHIP	39K	5%	1/16W
R6531	1-218-965-11	METAL CHIP	10K	5%	1/16W
R6532	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R6533	1-218-956-11	METAL CHIP	1.8K	5%	1/16W
R6537	1-218-990-81	SHORT CHIP	0		
R6540	1-208-721-11	METAL CHIP	39K	0.5%	1/16W
R7004	1-218-990-81	SHORT CHIP	0		
R7005	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7007	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R7008	1-218-990-81	SHORT CHIP	0		
R7009	1-218-883-11	METAL CHIP	33K	0.5%	1/10W
R7010	1-218-881-11	METAL CHIP	27K	0.5%	1/10W
R7011	1-208-717-11	METAL CHIP	27K	0.5%	1/16W
R7012	1-218-869-11	METAL CHIP	8.2K	0.5%	1/10W
R7014	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R7016	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R7017	1-218-990-81	SHORT CHIP	0		
R7018	1-218-883-11	METAL CHIP	33K	0.5%	1/10W
R7019	1-218-881-11	METAL CHIP	27K	0.5%	1/10W
R7020	1-208-717-11	METAL CHIP	27K	0.5%	1/16W
R7021	1-218-941-81	METAL CHIP	100	5%	1/16W
R7022	1-218-869-11	METAL CHIP	8.2K	0.5%	1/10W
R7024	1-216-864-11	SHORT CHIP	0		
R7026	1-216-864-11	SHORT CHIP	0		
R7028	1-218-977-11	METAL CHIP	100K	5%	1/16W
R7029	1-216-864-11	SHORT CHIP	0		
R7030	1-218-977-11	METAL CHIP	100K	5%	1/16W
R7031	1-218-977-11	METAL CHIP	100K	5%	1/16W
R7032	1-218-977-11	METAL CHIP	100K	5%	1/16W
R7033	1-218-977-11	METAL CHIP	100K	5%	1/16W
R7034	1-218-977-11	METAL CHIP	100K	5%	1/16W
R7035	1-218-977-11	METAL CHIP	100K	5%	1/16W
R7038	1-218-953-11	METAL CHIP	1K	5%	1/16W
R7040	1-218-973-11	METAL CHIP	47K	5%	1/16W
R7042	1-218-953-11	METAL CHIP	1K	5%	1/16W
R7043	1-218-973-11	METAL CHIP	47K	5%	1/16W
R8001	1-218-971-11	METAL CHIP	33K	5%	1/16W
R8004	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R8005	1-208-947-11	METAL CHIP	330K	0.5%	1/16W
R8006	1-218-892-11	METAL CHIP	75K	0.5%	1/10W
R8007	1-218-969-11	METAL CHIP	22K	5%	1/16W
R8008	1-218-969-11	METAL CHIP	22K	5%	1/16W
R8011	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R8012	1-208-927-11	METAL CHIP	47K	0.5%	1/16W
R8013	1-218-970-11	METAL CHIP	27K	5%	1/16W
R8014	1-218-970-11	METAL CHIP	27K	5%	1/16W
R8015	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8016	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8017	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8018	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8019	1-218-953-11	METAL CHIP	1K	5%	1/16W
R8021	1-211-979-11	METAL CHIP	27	0.5%	1/10W
R8022	1-211-979-11	METAL CHIP	27	0.5%	1/10W
R8024	1-218-989-11	METAL CHIP	1M	5%	1/16W

Ref. No.	Part No.	Description			
R8025	1-218-989-11	METAL CHIP	1M	5%	1/16W
R8026	1-218-953-11	METAL CHIP	1K	5%	1/16W
R8030	1-211-975-11	METAL CHIP	18	0.5%	1/10W
R8031	1-218-953-11	METAL CHIP	1K	5%	1/16W
R8032	1-218-953-11	METAL CHIP	1K	5%	1/16W
R8033	1-211-975-11	METAL CHIP	18	0.5%	1/10W
R8035	1-218-953-11	METAL CHIP	1K	5%	1/16W
R8036	1-218-953-11	METAL CHIP	1K	5%	1/16W
R8037	1-218-953-11	METAL CHIP	1K	5%	1/16W
R8038	1-218-953-11	METAL CHIP	1K	5%	1/16W
R8039	1-218-990-81	SHORT CHIP	0		
R8040	1-218-990-81	SHORT CHIP	0		
R8041	1-218-990-81	SHORT CHIP	0		
R8042	1-218-990-81	SHORT CHIP	0		
R8043	1-218-990-81	SHORT CHIP	0		
R8044	1-218-990-81	SHORT CHIP	0		
R8045	1-218-990-81	SHORT CHIP	0		
R8046	1-218-990-81	SHORT CHIP	0		
R8047	1-218-990-81	SHORT CHIP	0		
R8048	1-218-990-81	SHORT CHIP	0		
R8049	1-218-990-81	SHORT CHIP	0		
R8050	1-218-990-81	SHORT CHIP	0		
R8052	1-218-977-11	METAL CHIP	100K	5%	1/16W
R8065	1-218-971-11	METAL CHIP	33K	5%	1/16W
R8069	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R8070	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R8071	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R8072	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R8073	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R8074	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R8075	1-218-879-11	METAL CHIP	22K	0.5%	1/10W
R8076	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R8077	1-218-971-11	METAL CHIP	33K	5%	1/16W
R8079	1-208-918-11	METAL CHIP	20K	0.5%	1/16W
R8082	1-208-918-11	METAL CHIP	20K	0.5%	1/16W
R8087	1-211-979-11	METAL CHIP	27	0.5%	1/10W
R8088	1-211-979-11	METAL CHIP	27	0.5%	1/10W
R8089	1-211-979-11	METAL CHIP	27	0.5%	1/10W
R8090	1-211-979-11	METAL CHIP	27	0.5%	1/10W
R8091	1-211-975-11	METAL CHIP	18	0.5%	1/10W
R8092	1-211-975-11	METAL CHIP	18	0.5%	1/10W
R8093	1-211-975-11	METAL CHIP	18	0.5%	1/10W
R8094	1-211-975-11	METAL CHIP	18	0.5%	1/10W
R8095	1-218-971-11	METAL CHIP	33K	5%	1/16W
R8098	1-216-809-11	METAL CHIP	100	5%	1/10W
R8099	1-216-809-11	METAL CHIP	100	5%	1/10W
R8123	1-245-604-11	METAL CHIP	10M	5%	1/16W
R8124	1-245-604-11	METAL CHIP	10M	5%	1/16W
R8128	1-208-943-11	METAL CHIP	220K	0.5%	1/16W
R8130	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R8135	1-218-973-11	METAL CHIP	47K	5%	1/16W
R8136	1-218-973-11	METAL CHIP	47K	5%	1/16W
R8137	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R8138	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R8139	1-208-911-11	METAL CHIP	10K	0.5%	1/16W

Ref. No.	Part No.	Description			
		< COMPOSITION CIRCUIT BLOCK >			
RB1001	1-234-375-21	RES, NETWORK	1K (1005X4)		
RB2201	1-234-377-21	RES, NETWORK	4.7K (1005X4)		
RB4002	1-234-381-11	RES, NETWORK	100K (1005X4)		
RB4004	1-234-378-21	RES, NETWORK	10K (1005X4)		
RB4005	1-234-375-21	RES, NETWORK	1K (1005X4)		
RB4006	1-234-375-21	RES, NETWORK	1K (1005X4)		
		< VIBRATOR >			
* X1401	1-813-906-21	QUARTZ CRYSTAL OSCILLATOR (83.16MHz)			
X3401	1-781-045-11	VIBRATOR, CRYSTAL (24.576MHz)			
X4001	1-781-525-11	VIBRATOR, CRYSTAL (32.768kHz)			
X4201	1-795-920-11	VIBRATOR, CRYSTAL (20MHz)			
* X4401	1-767-205-81	VIBRATOR, CRYSTAL (20MHz)			
	A-1599-826-A	VF-178 BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
* C6201	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
C6202	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
* C6203	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
* C6204	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
C6205	1-100-611-91	CERAMIC CHIP	22uF	20%	6.3V
C6206	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6207	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6208	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6209	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6210	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6211	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6212	1-165-884-11	CERAMIC CHIP	2.2uF	10%	6.3V
C6213	1-100-581-81	CERAMIC CHIP	0.0047uF	10%	50V
C6214	1-119-923-11	CAP, CERAMIC	0.047uF	10%	10V
C6215	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6216	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6217	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6218	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6219	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6220	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6221	1-165-908-11	CERAMIC CHIP	1uF	10%	10V
C6222	1-100-567-81	CERAMIC CHIP	0.01uF	10%	25V
C6223	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C6224	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
* C6225	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
* C6226	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
* C6227	1-112-746-11	CAP, CERAMIC	4.7uF	10%	6.3V
		< CONNECTOR >			
* CN6201	1-817-543-71	CONNECTOR, FPC (ZIF) 27P			
* CN6202	1-817-910-71	CONNECTOR, FPC (ZIF) 45P			
		< FERRITE BEAD >			
FB6201	1-400-927-31	BEAD, FERRITE (1005)			
FB6202	1-400-927-31	BEAD, FERRITE (1005)			
FB6203	1-400-927-31	BEAD, FERRITE (1005)			
FB6204	1-400-927-31	BEAD, FERRITE (1005)			

Ref. No.	Part No.	Description			
		< IC >			
* IC6201	6-712-180-01	IC IR3Y80Y6			
		< COIL >			
L6201	1-400-588-11	INDUCTOR	10uH		
L6202	1-400-588-11	INDUCTOR	10uH		
L6203	1-400-588-11	INDUCTOR	10uH		
L6204	1-400-588-11	INDUCTOR	10uH		
L6205	1-400-588-11	INDUCTOR	10uH		
		< RESISTOR >			
R6206	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R6207	1-208-699-11	METAL CHIP	4.7K	0.50%	1/16W
R6208	1-218-990-81	SHORT CHIP	0		
R6209	1-218-977-11	METAL CHIP	100K	5%	1/16W
R6213	1-218-953-11	METAL CHIP	1K	5%	1/16W

A-1599-620-A XL-010 BOARD, COMPLETE

****

(IC5952 is not supplied, but this is included in XL-010 complete board.)

		< CAPACITOR >			
C5815	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C5817	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5818	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5861	1-165-989-11	CAP, CERAMIC	10uF	10%	6.3V
C5862	1-165-989-11	CAP, CERAMIC	10uF	10%	6.3V
C5863	1-165-875-11	CERAMIC CHIP	10uF	10%	10V
C5865	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5866	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5867	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5868	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5915	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C5917	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5918	1-128-594-11	ELECT CHIP	1uF	20%	50V
C5960	1-137-910-11	TANTAL. CHIP	10uF	20%	16V
C5961	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
* C5963	1-114-582-11	CERAMIC CHIP	0.1uF	10%	16V
C5964	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C5965	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C5966	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C5967	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C5968	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C5969	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C5972	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C5973	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C5974	1-112-300-91	CERAMIC CHIP	4.7uF	10%	10V
C5975	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C5978	1-124-779-00	ELECT CHIP	10uF	20%	16V
		< CONNECTOR >			
* CN5801	1-816-650-51	FFC/FPC CONNECTOR (LIF) 24P			
* CN5802	1-820-791-11	XLR CONNECTOR (RECEPTACLE) 3P (INPUT1/INPUT2)			
		< DIODE >			
* D5801	6-501-947-01	DIODE MA2S1110G8S0			

Ref. No.	Part No.	Description
* D5802	6-501-947-01	DIODE MA2S1110G8S0
* D5803	6-501-947-01	DIODE MA2S1110G8S0
* D5804	6-501-947-01	DIODE MA2S1110G8S0
* D5851	6-501-947-01	DIODE MA2S1110G8S0
* D5852	6-501-947-01	DIODE MA2S1110G8S0
* D5853	6-501-947-01	DIODE MA2S1110G8S0
* D5854	6-501-947-01	DIODE MA2S1110G8S0
* D5855	6-501-947-01	DIODE MA2S1110G8S0
* D5856	6-501-947-01	DIODE MA2S1110G8S0
* D5857	6-501-947-01	DIODE MA2S1110G8S0
* D5858	6-501-947-01	DIODE MA2S1110G8S0
* D5901	6-501-947-01	DIODE MA2S1110G8S0
* D5902	6-501-947-01	DIODE MA2S1110G8S0
* D5903	6-501-947-01	DIODE MA2S1110G8S0
* D5904	6-501-947-01	DIODE MA2S1110G8S0
* D5952	6-501-928-01	DIODE MAS3132EGLS0
D5953	6-501-123-01	DIODE RB160M-60TR
		< IC >
* IC5801	6-710-823-01	IC NJM2737RB1 (TE2)
IC5851	6-706-906-01	IC NJM2732RB1 (TE2)
* IC5901	6-710-823-01	IC NJM2737RB1 (TE2)
IC5952	(Not supplied)	IC TK11840LTL-G

(IC5952 is supplied included in XL-010 complete board.)

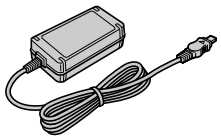
	< COIL >		
L5801	1-400-588-11	INDUCTOR	10uH
L5802	1-400-588-11	INDUCTOR	10uH
L5901	1-400-588-11	INDUCTOR	10uH
L5902	1-400-588-11	INDUCTOR	10uH
L5951	1-456-499-11	INDUCTOR	4.7uH
L5953	1-456-499-11	INDUCTOR	4.7uH
	< TRANSISTOR >		
Q5803	6-551-294-01	TRANSISTOR	MCH6606-TL-E
Q5804	6-551-294-01	TRANSISTOR	MCH6606-TL-E
Q5805	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R
Q5806	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L
Q5807	6-550-356-01	TRANSISTOR	MCH6616-TL-E
Q5808	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q5809	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q5903	6-551-294-01	TRANSISTOR	MCH6606-TL-E
Q5904	6-551-294-01	TRANSISTOR	MCH6606-TL-E
Q5905	6-550-237-01	TRANSISTOR	2SC5658FS6T2LQ/R
Q5906	6-550-239-01	TRANSISTOR	DTA144EMFS6T2L
Q5907	6-550-356-01	TRANSISTOR	MCH6616-TL-E
Q5908	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q5909	6-550-119-01	TRANSISTOR	DTC144EMFS6T2L
Q5953	8-729-044-37	TRANSISTOR	LSK3019FP8TL
Q5954	8-729-048-72	TRANSISTOR	2SK2615
⚠ Q5955	8-729-117-32	TRANSISTOR	2SC4177-L6
* Q5956	6-551-877-01	TRANSISTOR	2SC6054GR8S0
* Q5957	6-551-877-01	TRANSISTOR	2SC6054GR8S0
⚠ Q5958	8-729-119-64	TRANSISTOR	2SA811A-C17
⚠ Q5959	8-729-119-64	TRANSISTOR	2SA811A-C17

• Refer to page 5-1 for mark ⚠.

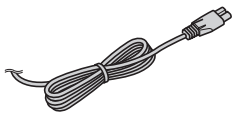
< RESISTOR >

Ref. No.	Part No.	Description			
R5801	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5802	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5803	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5804	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5805	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R5806	1-218-985-11	METAL CHIP	470K	5%	1/16W
R5807	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5808	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R5809	1-218-985-11	METAL CHIP	470K	5%	1/16W
R5810	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5811	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5812	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5813	1-216-817-11	METAL CHIP	470	5%	1/10W
R5814	1-216-817-11	METAL CHIP	470	5%	1/10W
R5815	1-208-711-11	RES, CHIP	15K	0.50%	1/16W
R5816	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R5817	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R5818	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R5821	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R5822	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R5823	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R5824	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R5825	1-216-809-11	METAL CHIP	100	5%	1/10W
R5826	1-216-809-11	METAL CHIP	100	5%	1/10W
R5832	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5833	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5834	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5835	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5836	1-218-981-91	METAL CHIP	220K	5%	1/16W
R5837	1-218-981-91	METAL CHIP	220K	5%	1/16W
R5838	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5839	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5840	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5841	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R5842	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5843	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5851	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R5852	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R5853	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R5854	1-218-901-11	METAL CHIP	180K	0.5%	1/10W
R5855	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R5856	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R5857	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R5858	1-218-878-11	METAL CHIP	20K	0.5%	1/10W
R5859	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R5860	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R5861	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R5862	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R5863	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5864	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5865	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5866	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5867	1-216-809-11	METAL CHIP	100	5%	1/10W
R5868	1-216-809-11	METAL CHIP	100	5%	1/10W
R5901	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5902	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5903	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5904	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5905	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R5906	1-218-985-11	METAL CHIP	470K	5%	1/16W
R5907	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5908	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R5909	1-218-985-11	METAL CHIP	470K	5%	1/16W
R5910	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5911	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5912	1-218-877-11	METAL CHIP	18K	0.5%	1/10W
R5913	1-216-817-11	METAL CHIP	470	5%	1/10W
R5914	1-216-817-11	METAL CHIP	470	5%	1/10W
R5915	1-208-711-11	RES, CHIP	15K	0.50%	1/16W
R5916	1-208-909-11	METAL CHIP	8.2K	0.5%	1/16W
R5917	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R5918	1-208-697-11	METAL CHIP	3.9K	0.5%	1/16W
R5921	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R5922	1-218-835-11	METAL CHIP	330	0.5%	1/10W
R5923	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R5924	1-218-860-11	METAL CHIP	3.6K	0.5%	1/10W
R5925	1-216-809-11	METAL CHIP	100	5%	1/10W
R5926	1-216-809-11	METAL CHIP	100	5%	1/10W
R5932	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5933	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5934	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5935	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5936	1-218-981-91	METAL CHIP	220K	5%	1/16W
R5937	1-218-981-91	METAL CHIP	220K	5%	1/16W
R5938	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5939	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5940	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5941	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R5942	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5943	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5960	1-218-989-11	METAL CHIP	1M	5%	1/16W
R5961	1-208-883-81	METAL CHIP	680	0.5%	1/16W
R5962	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5963	1-208-893-11	METAL CHIP	1.8K	0.5%	1/16W
R5964	1-208-955-11	METAL CHIP	680K	0.5%	1/16W
R5965	1-208-944-81	METAL CHIP	240K	0.5%	1/16W
R5966	1-208-911-11	RES, CHIP	10K	0.50%	1/16W
R5967	1-218-970-11	METAL CHIP	27K	5%	1/16W
R5968	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5969	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5970	1-218-973-11	METAL CHIP	47K	5%	1/16W
R5971	1-218-973-11	METAL CHIP	47K	5%	1/16W
R5972	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R5973	1-218-957-11	METAL CHIP	2.2K	5%	1/16W
R5974	1-216-837-11	METAL CHIP	22K	5%	1/10W
R5975	1-216-837-11	METAL CHIP	22K	5%	1/10W
R5976	1-208-894-81	METAL CHIP	2K	0.5%	1/16W
R5981	1-216-817-11	METAL CHIP	470	5%	1/10W
R5982	1-216-817-11	METAL CHIP	470	5%	1/10W
R5983	1-216-817-11	METAL CHIP	470	5%	1/10W
R5984	1-216-817-11	METAL CHIP	470	5%	1/10W
R5985	1-218-977-11	METAL CHIP	100K	5%	1/16W
R5986	1-218-977-11	METAL CHIP	100K	5%	1/16W

Checking supplied accessories.



AC Adaptor
(AC-L100/L100C)
*Compatible in L100 and L100C.
⚠ 1-479-286-33

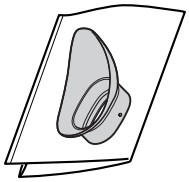


Power cord (mains lead)
⚠ 1-832-121-31 (PD198P)
⚠ 1-834-482-21 (PD175P/PD177P)

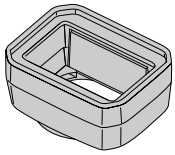
Wireless Remote Commander
(RMT-831)
1-478-495-41

A/V connecting cable
1-837-130-11

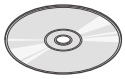
Operating Guide
* 4-154-011-11 (ENGLISH)
* 4-154-011-21 (SIMPLIFIED CHINESE)



Large eyecup
X-2342-702-1



Lens hood with lens cover
X-2320-850-1



CD-ROM “Manuals for
Digital Camcorder”
4-154-009-01

Operating Guide
(PDF)

The CD-ROM supplied contains all of language version of the Operating Guide for printing.

- The printed matter is not supplied. If required, please order it with the part number below.

* 4-154-011-11 (ENGLISH)
* 4-154-011-21 (SIMPLIFIED CHINESE)
* 4-154-011-31 (FRENCH)
* 4-154-011-41 (SPANISH)
* 4-154-011-51 (ITALIAN)
* 4-154-011-61 (GERMAN)

• Refer to page 5-1 for mark ⚠.

6. ADJUSTMENTS

Link

- Before starting adjustments
  - Adjusting items when replacing main parts and boards
  - List of service tools
- CAMERA SECTION ADJUSTMENTS
  - PREPARATIONS BEFORE ADJUSTMENTS
  - INITIALIZATION OF EVR DATA
  - CAMERA SYSTEM ADJUSTMENTS
  - ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS
  - LCD SYSTEM ADJUSTMENTS
- MECHANISM SECTION ADJUSTMENTS
  - HOW TO ENTER RECORD MODE WITHOUT CASSETTE
  - HOW TO ENTER PLAYBACK MODE WITHOUT CASSETTE
  - TAPE PATH ADJUSTMENT
- VIDEO SECTION ADJUSTMENTS
  - PREPARATIONS BEFORE ADJUSTMENTS
  - SYSTEM CONTROL SYSTEM ADJUSTMENTS
  - SERVO AND RF SYSTEM ADJUSTMENTS
  - VIDEO SYSTEM ADJUSTMENTS
  - AUDIO SYSTEM ADJUSTMENTS
- SERVICE MODE
  - ADJUSTMENT REMOTE COMMANDER (RM-95)
  - ADJUSTMENT REMOTE COMMANDER (NEW LANC JIG)
  - DATA PROCESS
  - SERVICE MODE

SECTION 6
ADJUSTMENTS

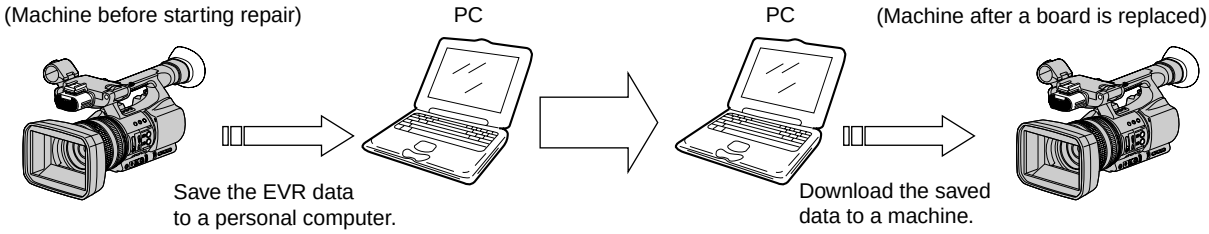
1. Before starting adjustments

EVR Data Re-writing Procedure When Replacing Board

The data that is stored in the repair board, is not necessarily correct.
Perform either procedure 1 or procedure 2 or procedure 3 when replacing board.

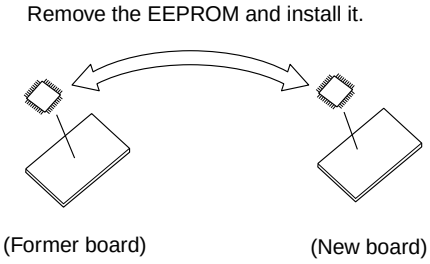
Procedure 1

Save the EVR data of the machine in which a board is going to be replaced. Download the saved data after a board is replaced.



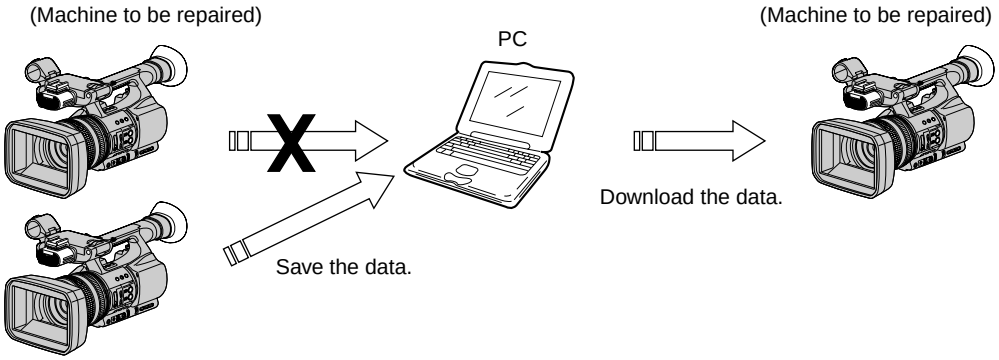
Procedure 2

Remove the EEPROM from the board of the machine that is going to be repaired. Install the removed EEPROM to the replaced board.



Procedure 3

When the data cannot be saved due to defective EEPROM, or when the EEPROM cannot be removed or installed, save the data from the same model of the same destination, and download it.



After the EVR data is saved and downloaded, check the respective items of the EVR data.
(Refer to page 6-3 for the items to be checked)

1-1. Adjusting items when replacing main parts and boards

• Adjusting items when replacing main parts

When replacing main parts, adjust the items indicated by ● in the following table.

Note 1: When replacing the drum assy or the mechanism deck, reset the data of page: 7, address: A8 to AB to "00". (Refer to "Record of Use check" of "6-4. SERVICE MODE")

Note 2: If the lens is broken, it must be replace with the already adjusted lens.

Adjustment Section	Adjustment	Replaced part																			
		Block replacement									Mounted part replacement										
		Lens Block (Note 2)	PRISM device (Including CM-097 and CM-104 board and CMOS imager (IC3001/IC5001))	LCD block LCD901 (3.2 inch wide color LCD unit)	LCD block D901 (BACKLIGHT)	EVF block LCD902 (Color EVF unit)	Mechanism deck (Note 1)	Mechanism deck M901 (DRUM MOTOR) (Note 1)	Mechanism deck MD block	GY-014 board SE8501, 8502 (PITCH, YAW sensor)	VC-597 board X1401 (Oscillator)	VC-597 board IC1401 (Camera signal processor)	VC-597 board IC1801 (Base band signal processor, etc.)	VC-597 board IC2601 (DV signal processor, etc.)	VC-597 board IC2002 (Video out AMP)	VC-597 board IC2001 (Component out AMP)	MD-141 board IC5201 (REC/PB AMP)	VF-178 board IC6201 (EVF drive, etc.)	PD-372 board IC6001 (LCD drive, etc.)
Initialization of EVR data	Initialization of A, B, D, 1A, 1B page data																				
	Initialization of 8, 9, C, 13, 18, 1C, 1D, 1E page data																				
	Initialization of camera control page data																				
Camera	Origin oscillation check										●										
	PSD sensor adj.									●											
	Lens adj.	●	●																		
	MR sensor (Focus/Zoom Ring) adj.	●																			
	Coaxial harness connecting check		●																		
	Flange back adj.	●	●																		
	Black balance adj.	●	●										●								
	Linear matrix adj.	●	●										●								
	Auto white balance standard data input	●	●										●								
	LV standard data input	●	●										●								
	STD GAIN adj.	●	●										●								
	MAX GAIN adj.	●	●																		
	Auto white balance adj.	●	●										●								
	Color reproduction adj.	●	●										●								
	White defect adj.	●	●																		
	Black defect adj.	●	●																		
	Angular velocity sensor sensitivity adj.									●											
EVF	EVF gain adj.																		●		
LCD	PANEL gain adj.													●							●
	V-COM adj.			●																	
	Transmissive mode white balance adj.			●	●																●
Mechanism	Tape path adj.						●	●	●												
System control	Node unique ID No. input																				
Servo, RF	CAP FG duty adj.						●		●												
	Switching position adj.						●	●	●												
	SD Error rate check						●	●	●						●			●			
Video	S VIDEO OUT Y level adj.													●		●					
	S VIDEO OUT chroma level adj.													●		●					
	VIDEO OUT level check													●		●					
	COMPONENT OUT Y level adj.													●			●				
	COMPONENT OUT Pr level adj.													●			●				
	COMPONENT OUT Pb level adj.													●			●				

Table 6-1-1 (1)

• Adjusting items when replacing a board or EEPROM

When replacing a board or EEPROM, adjust the items indicated by ● in the following table.

Adjustment Section	Adjustment	Replaced part: GY-014 board (COMPLETE)	VC-597 board (COMPLETE)	MD-141 board (COMPLETE)	VF-178 board (COMPLETE)	PD-372 board (COMPLETE)	VC-597 board IC3805 (EEPROM)	VC-597 board IC4202 (EEPROM)	Supporting RadarW
Initialization of EVR data	Initialization of A, B, D, 1A, 1B page data		●				●		
	Initialization of 8, 9, C, 13, 18, 1C, 1D, 1E page data		●						
	Initialization of camera control page data		●					●	
Camera	Origin oscillation check		●						
	PSD sensor adj.		●						●
	Lens adj.		●						●
	MR sensor (Focus/Zoom Ring) adj.		●						●
	Coaxial harness connecting check		●						●
	Flange back adj.		●						
	Black balance adj.		●						●
	Auto white balance standard data input		●						●
	LV standard data input		●						●
	STD GAIN adj.		●						●
	MAX GAIN adj.		●						●
	Linear matrix adj.		●						●
	Auto white balance adj.		●						●
	Color reproduction adj.		●						●
	White defect adj.		●						●
	Black defect adj.		●						●
	Angular velocity sensor sensitivity adj.	●	●						
EVF	EVF gain adj.		●		●				●
LCD	PANEL gain adj.		●			●			●
	V-COM adj.		●						
	Transmissive mode white balance adj.		●			●			
Mechanism	Tape path adj.								
System control	Node unique ID No. input		●						
Servo, RF	CAP FG duty adj.		●	●					●
	Switching position adj.		●	●					●
	SD Error rate check		●	●					●
Video	S VIDEO OUT Y level adj.		●						
	S VIDEO OUT chroma level adj.		●						
	VIDEO OUT level check		●						
	COMPONENT OUT Y level adj.		●						
	COMPONENT OUT Pr level adj.		●						
	COMPONENT OUT Pb level adj.		●						

Table 6-1-1 (2)

Note 3: IC2402, IC3804 (Flash memories) on the VC-597 board cannot be replaced.

1-2. List of service tools

- Oscilloscope
- Color monitor
- Regulated power supply
- Digital voltmeter
- Frequency counter
- Audio level meter
- Balanced audio generator
- Calculating machine capable of calculating hexadecimal numbers

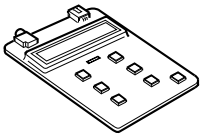
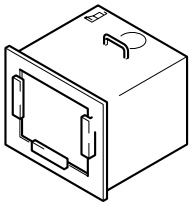
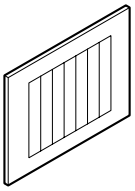
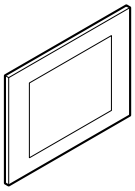
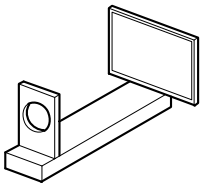
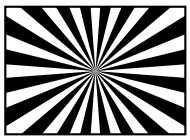
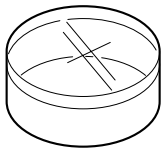
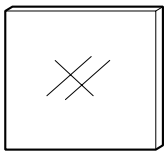
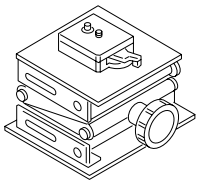
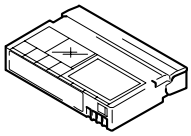
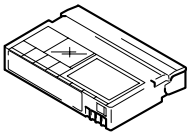
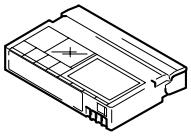
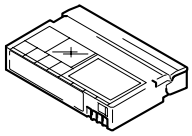
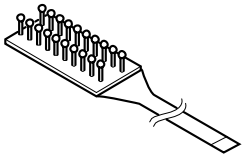
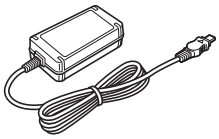
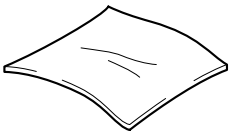
J-1 Adjustment remote commander (RM-95) J-6082-053-B	J-2  Adjustment remote commander (NEW LANC JIG) J-6082-565-A	J-3 LANC cable J-6082-442-A
J-4  Small pattern box PTB-1450 J-6082-557-A	J-5  Color bar chart For PTB-1450: J-6082-559-A	J-6  Clear chart For PTB-1450: J-6082-560-A
J-7  Flange back adjustment jig J-6082-563-A	J-8  Siemens star chart J-6080-875-A	J-9  Filter for color temperature correction (C14) J-6080-058-A
J-10  ND filter 1.0 J-6080-808-A ND filter 0.4 J-6080-806-A ND filter 0.1 J-6080-807-A	J-11  Camera table J-6082-384-A	J-12  Tracking standard (XH2-1) 8-967-997-01
J-13  SW/OL standard (XH2-3) 8-967-997-11	J-14  Audio operation check for PAL (XH5-3P) 8-967-997-55	J-15  System operation check for PAL (XH5-5P) 8-967-997-66
J-16  CPC-13 jig J-6082-443-A	J-17  AC Adaptor (AC-L100/L100C) 1-479-286-33	J-18 Head cleaning liquid 9-919-573-01

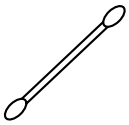
Fig. 6-1-1 (1)

J-19



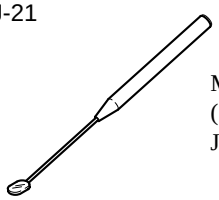
Wiping cloth
7-741-900-53

J-20



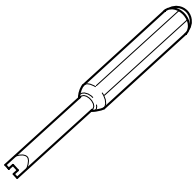
Super fine applicator
(made by Nippon
Applicator (P752D))

J-21



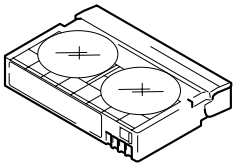
Mirror
(Small oval type)
J-6080-840-A

J-22



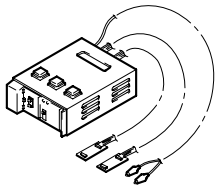
Screwdriver for
the tape path
J-6082-026-A

J-23



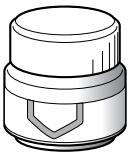
Mini DV
torque cassette
J-6082-360-A

J-24



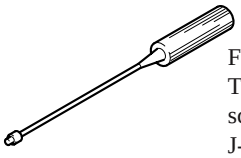
Mode Selector II
J-6082-282-B

J-25



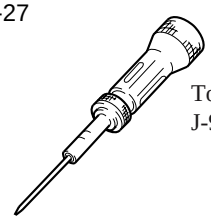
Suncall Grease
(FG-87HSR)
7-640-006-08

J-26



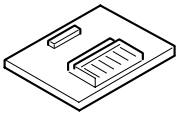
FWD/BACK
T adjustment
screwdriver
J-6082-364-A

J-27



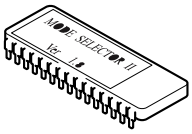
Torque screwdriver
J-9049-330-A

J-28



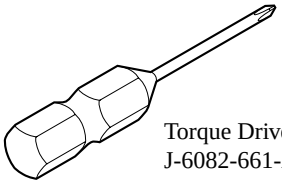
Mode Selector II
conversion board (N)
J-6082-567-A

J-29



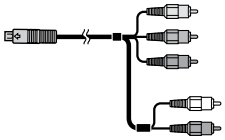
Mode Selector II
ROM (Note1)
J-6082-314-G

J-30



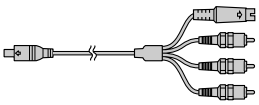
Torque Driver Bit (#0)
J-6082-661-A

J-31



Component A/V Cable
1-834-646-11

J-32

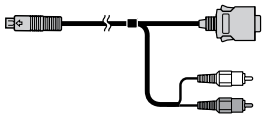


A/V Connecting Cable (1.5 m)
(with S Video terminal)
1-823-156-13

J-33

A/V Connecting Cable
1-823-156-61

J-34



D Terminal A/V Cable
1-834-646-21

Fig. 6-1-1 (2)

Note 1: This is the ROM used for upgrading the version of Mode Selector II to enable it to be used for the N mechanism. Set the indication to “Z” when using the mode selector II.

6-1. CAMERA SECTION ADJUSTMENTS

1-1. PREPARATIONS BEFORE ADJUSTMENTS (CAMERA SECTION)

1-1-1. Preparations

Note: Before perform the adjustment, check that the data of page: 0, address: 10 is “00”.
If not, select page: 0, address: 10, and set data “00”.

1) Connect the equipment for adjustments according to Fig. 6-1-2.

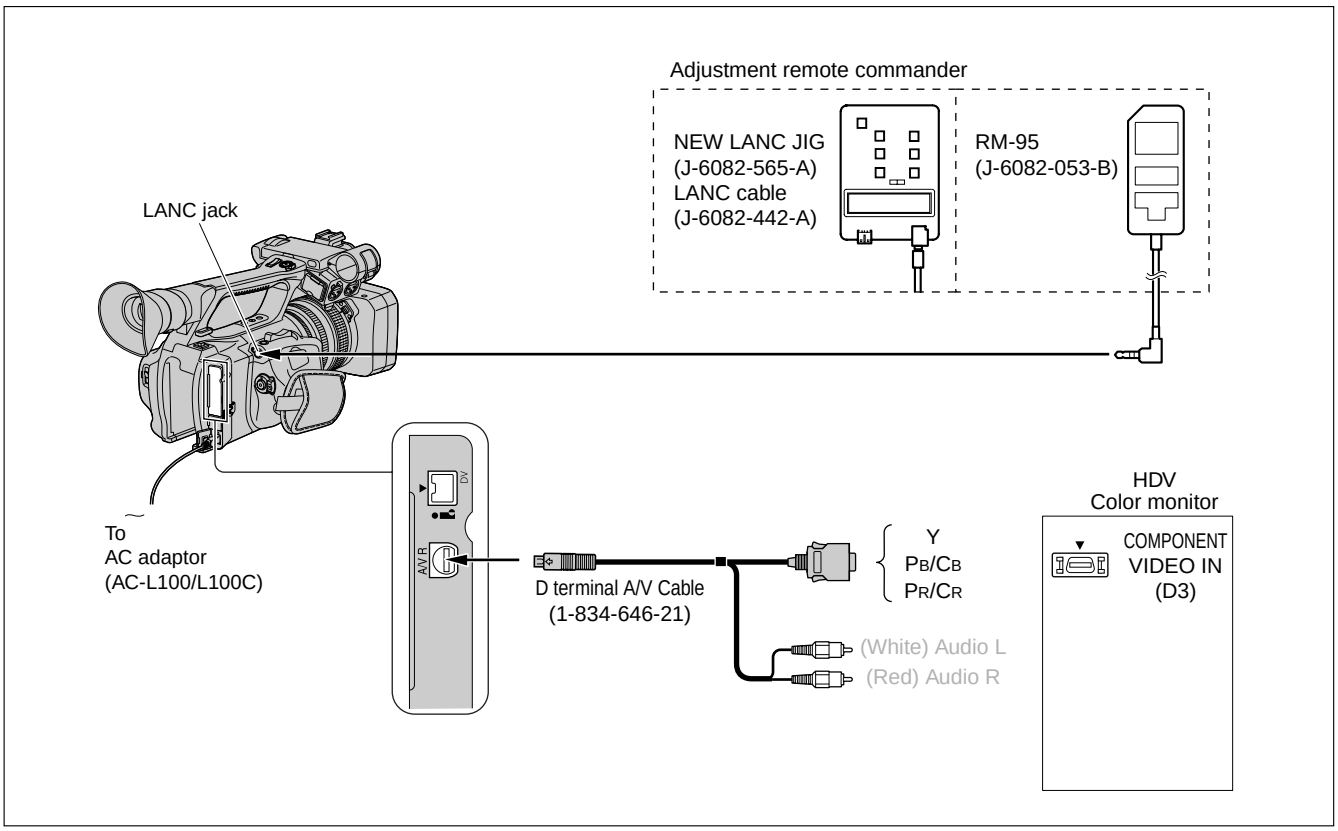


Fig. 6-1-2

1-1-2. Set to HDV Mode

Note: Before perform the adjustment, be sure to set to HDV mode.

Perform the following data setting.

Order	Page	Address	Data	Procedure
1	0	01	80	(Release the write protect)
2	0A	10	01	Press PAUSE (Write) button. (Force Camera Mode setting)
3	07	01	BD	(Set to HDV mode)
4	07	04	00	
5	07	02	FF	
6	07	00	01	Press PAUSE (Write) button.
7	07	02		Check the data is “01”.
8	07	01	D1	(Component D3 setting)
9	07	04	02	
10	07	02	FF	
11	07	00	01	Press PAUSE (Write) button.
12	07	02		Check the data is “01”.

Order	Page	Address	Data	Procedure
13	07	83	02	(Make D3 output from A/V R)
14	9F	26	Bit:0 ➧1	

1-1-3. Precaution

1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments without loading cassette.

1. CAMERA/VCR switch ..... CAMERA
2. FOCUS switch ..... AUTO
3. ND FILTER ..... OFF
4. SHUTTER SPEED ..... AUTO
5. MENU settings
   - CAMERA SET menu
     - BACK LIGHT ..... OFF
     - SPOT LIGHT ..... OFF
     - D. EXTENDER ..... OFF

2. Order of Adjustments

Basically carry out adjustments in the order given.

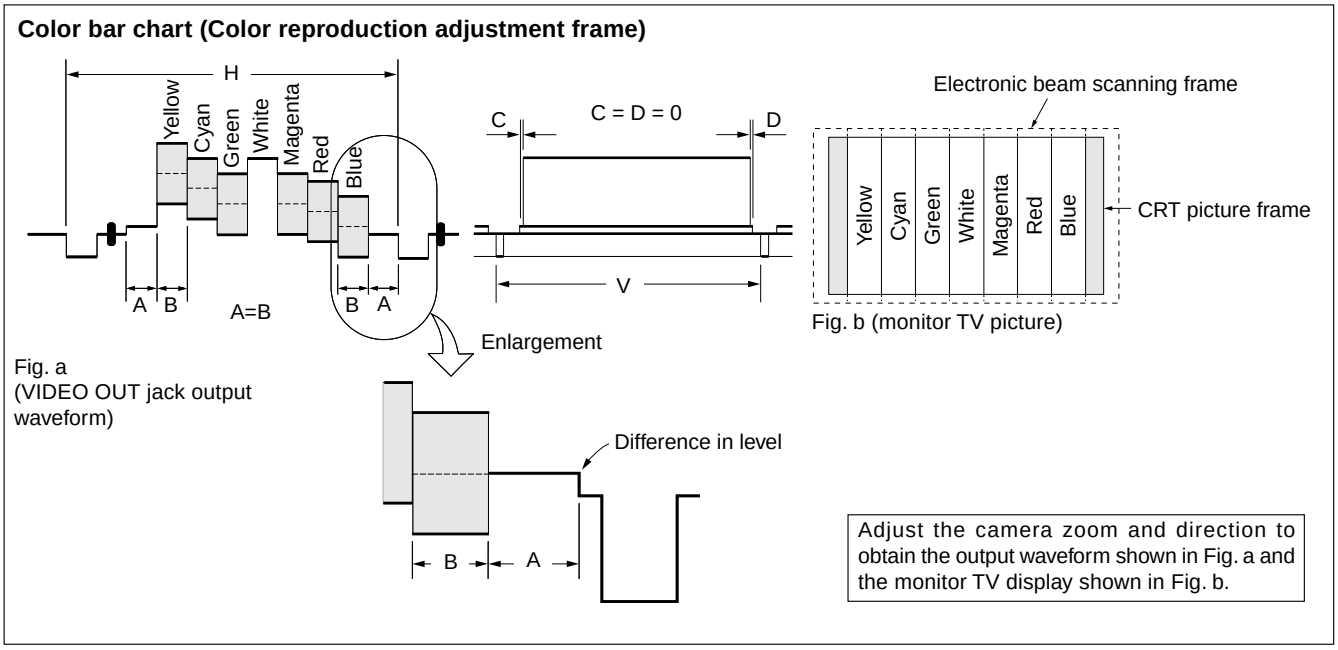


Fig. 6-1-3

3. Subjects

1) Color bar chart (Color reproduction adjustment frame)
   When performing adjustments using the color bar chart, adjust the picture frame as shown in Fig. 6-1-3. (Color reproduction adjustment frame)
2) Clear chart (Color reproduction adjustment frame)
   Remove the color bar chart from the pattern box and insert a clear chart in its place. (Do not perform zoom operations during this time)

4. Setting Distance between Pattern Box and Camera

Set the distance from the front of the lens to the pattern box as shown in Fig. 6-1-4.

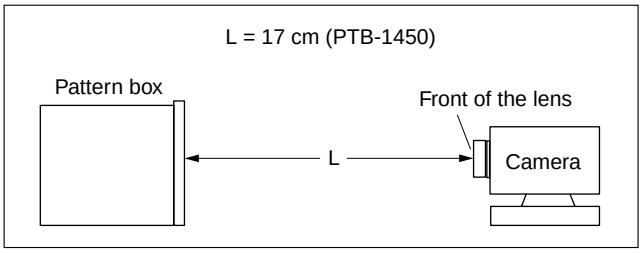
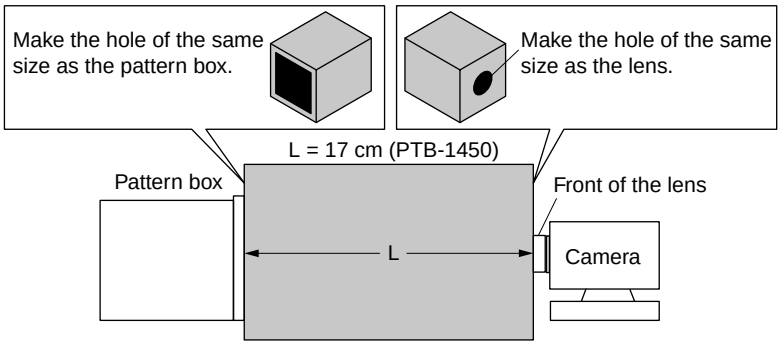


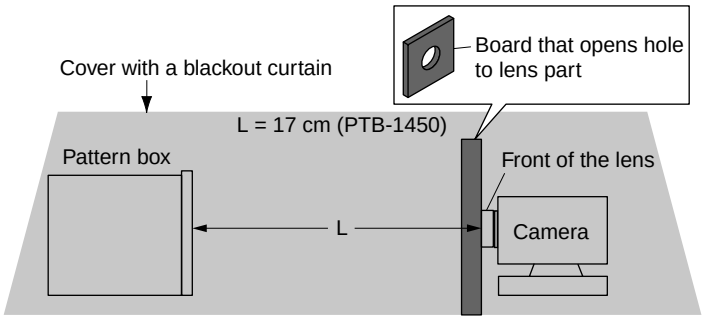
Fig. 6-1-4

5. Precautions When Using Pattern Box

1) It takes about 30 minutes for pattern box to stabilize its brightness.
   Turn on the pattern box 30 minutes before the adjustment starts.
2) Make arrangement so that the outside light does not enter the chart surface in the pattern box.
   Also, place a board between chart and camera, and make a hole at the lens part of the board so that the camera is not reflected in the shot image screen.
   (Adjustment may not be performed correctly due to the influence of outside light.)
   Example 1: Place a box to block a section between pattern box and camera.


Make the hole of the same size as the pattern box.
Make the hole of the same size as the lens.
L = 17 cm (PTB-1450)
Pattern box
Front of the lens
L
Camera

Example 2: Place a board having a hole in front of the camera and cover the pattern box and camera with a blackout curtain



3) Control of color chart
   The color chart will fade if it is exposed to direct sunlight or strong light.
   Since the fading of color chart progresses even with the light in the pattern box, remove and store the color chart when it is not used.
   Remove the color chart and store it.
   Store the color chart in a place not exposed to direct light, avoiding high temperature and humidity.
   Use the color chart for about three years, and afterward replace it with a new chart.

1-2. INITIALIZATION OF EVR DATA

Note 1: Pages used for the EVR consists of 45 pages. There are 8, 9, A, B, C, D, 13, 18, 1A, 1B, 1C, 1D, 1E, 6D, 6E, 6F, 7C, 7E, 7F, 8C, 8D, 8E, 8F, 9D, 9E, 9F, AD, AE, AF, BE, BF, C2, C3, C4, C5, C6, C7, C8, C9, CA, CB, CC, CD, CE, CF, pages.

Note 2: If 2-digit page is selected, set higher-order digit to page: 0, address: 10 as data, and then select lower-order digit by a usual method.
e.g.: Set data: 06 to page: 0, address: 10, and then select page: D. Thus, the page 6D can be selected.

1-2-1. Initialization of A, B, D, 1A, 1B Page Data

Note: Check that the data of page: 0, address: 10 is "00".

1. Initializing of A, B, D, 1A, 1B Page Data

Note: If the A, B, D, 1A, 1B page data has been initialized, the following adjustments need to be performed again.
1) Modification of A, B, D, 1A, 1B page data
2) Level vial adjustment

Adjustment Page	A
Adjustment Address	10 to FF
Adjustment Page	B
Adjustment Address	00 to FF
Adjustment Page	D
Adjustment Address	10 to FF
Adjustment Page	1A
Adjustment Address	00 to FF
Adjustment Page	1B
Adjustment Address	00 to FF

Initializing method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	2	EA		Check the bit1 value: 0
4	7	04		Set the following data: 11
5	7	01		Set the following data 20: Initializing A page 21: Initializing B page 22: Initializing D page 23: Initializing 1A page 24: Initializing 1B page 25: Initializing A and 1A page 26: Initializing B and 1B page 28: Initializing A, B, D, 1A and 1B page
6	7	02	FF	
7	7	00	01	Press PAUSE (Write) button.
8	7	02		Check the data changes to "01".
9				Perform "Modification of A, B, D, 1A, 1B Page Data"

2. Modification of A, B, D, 1A, 1B Page Data

If the A, B, D, 1A, 1B page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) If modification of data on pages A, B, D, set data: 00 to page: 0, address: 10, and then select pages A, B, D.
3) If modification of data on pages 1A, 1B, set data: 01 to page: 0, address: 10, and then select pages A, B.
   After the modification of data finished, return the data on page: 0, address: 10 to "00".
4) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note 1: If copy the data built in the different model, the camcorder may not operate.
5) When changing the data, press the PAUSE (Write) button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
6) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification A, B, D, 1A, 1B page data:

Order	Page	Address	Data	Procedure
1	0	10	00	
2	2	00	29	Press PAUSE (Write) button.
3	2	01	29	Press PAUSE (Write) button.

Note 2: If following symptoms occur after completing of the "Modification A, B, D, 1A, 1B page data", check that the data of the "Fixed data-2" address of A, B, D, 1A, 1B page are same as those of same model of same destination.
1) The power is shut off so that unit cannot operate.

3. A Page table

Note 1: Check that the data of page: 0, address: 10 is“00”.

Note 2: Fixed data-1: Initialized data. (Refer to“1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to“2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value	Remark
10	00	Test mode
11 to 17	Fixed data-1 (Initialized data)	
18	Fixed data-2	
19 to 2E	Fixed data-1 (Initialized data)	
2F	Fixed data-2	
30	Fixed data-1 (Initialized data)	
31	Fixed data-2	
32 to 9A	Fixed data-1 (Initialized data)	
9B	Fixed data-2	
9C	Fixed data-1 (Initialized data)	
9D	Fixed data-2	
9E	Fixed data-1 (Initialized data)	
9F	Fixed data-2	
A0 to A4	Fixed data-1 (Initialized data)	
A5	Fixed data-2	
A6	Fixed data-1 (Initialized data)	
A7	Fixed data-2	
A8	Fixed data-1 (Initialized data)	
A9	Fixed data-2	
AA to EF	Fixed data-1 (Initialized data)	
F0 to F3	Fixed data-2	
F4 to FF	Fixed data-1 (Initialized data)	

4. B Page table

Note 1: Check that the data of page: 0, address: 10 is “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value	Remark
00 to B0	Fixed data-1 (Initialized data)	
B1	Fixed data-2	
B2 to FF	Fixed data-1 (Initialized data)	

5. D Page table

Note 1: Check that the data of page: 0, address: 10 is “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value	Remark
10 to 2A	Fixed data-1 (Initialized data)	
2B	Fixed data-2	
2C to FF	Fixed data-1 (Initialized data)	

6. 1A Page table

Note 1: If reading/writing data on pages 1A, set data: 01 to page: 0, address: 10, and then select pages: A. By this data setting, the pages 1A can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

7. 1B Page table

Note 1: If reading/writing data on pages 1B, set data: 01 to page: 0, address: 10, and then select pages: B. By this data setting, the pages 1B can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the A, B, D, 1A, 1B Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of A, B, D, 1A, 1B Page Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

1-2-2. Initialization of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data

1. Initializing of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data

Note 1: If "Initialization of Pages 8, 9, C, 13, 18, 1C, 1D, 1E" is executed, all data on pages 8, 9, C, 13, 18, 1C, 1D, 1E are initialized. (Only an individual page cannot be initialized)

Note 2: If the 8, 9, C, 13, 18, 1C, 1D, 1E page data has been initialized, the following adjustments need to be performed again.

1) Modification of 8, 9, C, 13, 18, 1C, 1D, 1E page data
2) Electronic viewfinder system adjustments (if all areas were initialized)
3) LCD system adjustments (if all areas were initialized)
4) Node unique ID No. input (if all areas were initialized)
5) Servo, RF system adjustments (if all areas were initialized)
6) Video system adjustments (if all areas were initialized)

Adjustment Page	8
Adjustment Address	00 to FF
Adjustment Page	9
Adjustment Address	00 to FF
Adjustment Page	C
Adjustment Address	10 to FF
Adjustment Page	13
Adjustment Address	00 to FF
Adjustment Page	18
Adjustment Address	00 to FF
Adjustment Page	1C
Adjustment Address	00 to FF
Adjustment Page	1D
Adjustment Address	00 to FF
Adjustment Page	1E
Adjustment Address	00 to FF

Initializing method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	3	81		Set the following data. (Note 3) 00: Initializing all areas 01: Initializing other than adjustment address
4	3	80	0C	Press PAUSE (Write) button.
5	3	80		Check the data changes to "1C".
6	3	91		Set the following data. (Note 3) 09: Initializing all areas 19: Initializing other than adjustment address
7	3	90	0C	Press PAUSE (Write) button.
8	3	90		Check the data changes to "1C".
9				Perform "Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data"

Note 3: If other than adjustment address was initialized, the adjusted data is not initialized.

2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data

If the 8, 9, C, 13, 18, 1C, 1D, 1E page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Processing before Modification 8, 9, C, 13, 18, 1C, 1D, 1E page data:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	3	71	01	Press PAUSE (Write) button.

Modifying Method:

1) If modification of data on pages 8, 9, C, set data: 00 to page: 0, address: 10, and then select pages 8, 9, C.
2) If modification of data on pages 13, 18, 1C, 1D, 1E, set data: 01 to page: 0, address: 10, and then select pages 3, 8, C, D, E. After the modification of data finished, return the data on page: 0, address: 10 to "00".
3) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
4) When changing the data, press the PAUSE (Write) button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
5) If all areas were initialized, check that the data at the addresses for adjustment are initial values (adjustment initial values) listed in the table.
   If different, change them to the adjustment initial values.

Processing after Completing Modification 8, 9, C, 13, 18, 1C, 1D, 1E page data:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	3	70	10	Press PAUSE (Write) button.
4	3	70		Check the data changes to "11".
5	2	00	29	
6	2	01	29	Press PAUSE (Write) button.

3. 8 Page table

Note 1: Check that the data of page: 0, address: 10 is“00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)

Address	Initial value	Remark
00 to F1	Fixed data-1 (Initialized data)	
F2	Fixed data-2	
F3 to FF	Fixed data-1 (Initialized data)	

4. 9 Page table

Note 1: Check that the data of page: 0, address: 10 is “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

5. C Page table

Note 1: Check that the data of page: 0, address: 10 is “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data”)

Address	Initial value	Remark
10	EE	Switching position adj.
11	00	
12	00	
13	00	
14, 15		Fixed data-1 (Initialized data)
16	E0	CAP FG duty adj.
17 to 7D		Fixed data-1 (Initialized data)
7E	70	S VIDEO OUT Y level adj.
7F	8A	S VIDEO OUT chroma level adj.
80	61	
81to 8B		Fixed data-1 (Initialized data)
8C	79	COMPONENT OUT Y level adj.
8D	31	COMPONENT OUT Pb level adj.
8E	32	COMPONENT OUT Pr level adj.
8F to A0		Fixed data-1 (Initialized data)
A1	70	V-COM adj. (LCD)
A2	20	Transmissive mode white balance adj. (LCD)
A3	20	
A4, A5		Fixed data-1 (Initialized data)
A6	80	PANEL gain adj.
A7	80	
A8	80	
A9	80	EVF gain adj.
AA	80	
AA	80	
AC	37	
AD	37	
AE	37	
AF	37	PANEL gain adj.
B0	37	
B1	37	
B2	00	Error rate check
B3	00	
B4	00	
B5	00	
B6	00	
B7	80	

Address	Initial value	Remark
B8	00	Error rate check
B9	00	
BA	00	
BB	00	
BC	00	
BD	00	
BE	00	
BF	00	
C0	00	
C1	00	
C2	80	
C3	00	
C4	00	
C5	00	
C6	00	
C7	00	
C8 to F3	Fixed data-1 (Initialized data)	
F4	00	Emergence memory address (Mechanism section)
F5	00	
F6	00	
F7	00	
F8	00	
F9	00	
FA	00	
FB	00	
FC	00	
FD	00	
FE	00	
FF	00	

6. 13 Page table

Note 1: If reading/writing data on pages 13, set data: 01 to page: 0, address: 10, and then select pages: 3. By this data setting, the pages 13 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value	Remark
00 to 03	Fixed data-1 (Initialized data)	
04	08	Node unique ID No. input
05	00	
06	46	
07	01	
08	02	
09	00	
0A	00	
0B	00	
0C	44	Model Name (SDD data)
0D	53	
0E	52	
0F	2D	
10	50	
11	44	
12	31	
13	37	PD175P
	37	PD177P
	39	PD198P
14	35	PD175P
	37	PD177P
	38	PD198P
15	50	
16	00	
17	00	
18 to 23	Fixed data-1 (Initialized data)	
24	01	Module No.
25	87	PD175P
	88	PD177P
	89	PD198P
26 to FF	Fixed data-1 (Initialized data)	

7. 18 Page table

Note 1: If reading/writing data on pages 18, set data: 01 to page: 0, address: 10, and then select pages: 8. By this data setting, the pages 18 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value	Remark
00 to DD	Fixed data-1 (Initialized data)	
DE	Fixed data-2	
DF to FF	Fixed data-1 (Initialized data)	

8. 1C Page table

Note 1: If reading/writing data on pages 1C, set data: 01 to page: 0, address: 10, and then select pages: C. By this data setting, the pages 1C can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to"00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

9. 1D Page table

Note 1: If reading/writing data on pages 1D, set data: 01 to page: 0, address: 10, and then select pages: D. By this data setting, the pages 1D can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

10. 1E Page table

Note 1: If reading/writing data on pages 1E, set data: 01 to page: 0, address: 10, and then select pages: E. By this data setting, the pages 1E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")
Fixed data-2: Modified data. (Refer to "2. Modification of 8, 9, C, 13, 18, 1C, 1D, 1E Page Data")

Address	Initial value	Remark
00 to 83	Fixed data-1 (Initialized data)	
84, 85	Fixed data-2	
86 to FF	Fixed data-1 (Initialized data)	

1-2-3. Initialization of Camera Control Page Data

1. Initializing of Camera Control Page Data

Note 1: If "Initialization of Camera Control Page Data" is executed, all data on camera control page are initialized. (Only an individual page cannot be initialized)

Note 2: If the camera control page data has been initialized, the following adjustments need to be performed again.
1) Modification of camera control page data
2) Camera system adjustment (if all areas were initialized)

Adjustment Page	6D
Adjustment Address	00 to F9
Adjustment Page	6E
Adjustment Address	00 to FF
Adjustment Page	6F
Adjustment Address	10 to FF
Adjustment Page	7C
Adjustment Address	00 to FF
Adjustment Page	7E
Adjustment Address	00 to FF
Adjustment Page	7F
Adjustment Address	00 to FF
Adjustment Page	8C
Adjustment Address	00 to F9
Adjustment Page	8D
Adjustment Address	00 to FF
Adjustment Page	8E
Adjustment Address	00 to FF
Adjustment Page	8F
Adjustment Address	00 to FF
Adjustment Page	9D
Adjustment Address	00 to 4F
Adjustment Page	9E
Adjustment Address	00 to FF
Adjustment Page	9F
Adjustment Address	00 to FF
Adjustment Page	AD
Adjustment Address	00 to 4F
Adjustment Page	AE
Adjustment Address	00 to F1
Adjustment Page	AF
Adjustment Address	00 to FF
Adjustment Page	BE
Adjustment Address	00 to F9
Adjustment Page	BF
Adjustment Address	00 to FF
Adjustment Page	C2
Adjustment Address	00 to FF
Adjustment Page	C3
Adjustment Address	00 to FF
Adjustment Page	C4
Adjustment Address	00 to FF
Adjustment Page	C5
Adjustment Address	00 to FF

Adjustment Page	C6
Adjustment Address	00 to D4
Adjustment Page	C7
Adjustment Address	00 to FF
Adjustment Page	C8
Adjustment Address	00 to FF
Adjustment Page	C9
Adjustment Address	00 to FF
Adjustment Page	CA
Adjustment Address	00 to FF
Adjustment Page	CB
Adjustment Address	00 to D4
Adjustment Page	CC
Adjustment Address	00 to C7
Adjustment Page	CD
Adjustment Address	00 to FF
Adjustment Page	CE
Adjustment Address	00 to FF
Adjustment Page	CF
Adjustment Address	00 to FF

Initializing method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	00	
3	2	EA		Check the bit1 value: 0
4	6	01		Set the following data, and press PAUSE (Write) button. (Note 3) 2F: Initializing all areas 33: Initializing other than adjustment address
5	6	03	01	Press PAUSE (Write) button.
6	6	02		Check the data changes to “01”.
7	6	01	00	Press PAUSE (Write) button.
8	0	10	7	
9	2 (72)	01		Set the following data, and press PAUSE (Write) button. 2D: Initializing all areas 31: Initializing other than adjustment address
10	2 (72)	02		Check the data changes to “01”.
11	2 (72)	01	00	Press PAUSE (Write) button.
12	0	10	00	
13	0	10	00	
14				Perform “Modification of Camera Control Data”.

Note 3: If other than adjustment address was initialized, the adjusted data is not initialized.

2. Modification of Camera Control Page Data

If the camera control page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) If 2-digit page is selected, set higher-order digit to page: 0, address: 10 as data, and then select lower-order digit by a usual method.
   e.g.: Set data: 06 to page: 0, address: 10, and then select page: D. Thus, the page 6D can be selected.
   After the modification of data finished, return the data on page: 0, address: 10 to "00".
3) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note: If copy the data built in the different model, the camcorder may not operate.
4) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
5) If all areas were initialized, check that the data at the addresses for adjustment are initial values (adjustment initial values) listed in the table. If different, change them to the adjustment initial values.
6) Select page: 0, address: 01, set data: 01.
7) Select page: 3, address: 71, set data: 01, and press PAUSE (Write) button.

Processing after Completing Modification Camera Control Data:

Order	Page	Address	Data	Procedure
1	0	10	00	
2	3	70	10	Press PAUSE (Write) button.
3	3	70		Check the data changes to "11".
4	2	00	29	
5	2	01	29	Press PAUSE (Write) button.

3. 6D Page table

Note 1: If reading/writing data on pages 6D, set data: 06 to page: 0, address: 10, and then select pages: D. By this data setting, the pages 6D can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to 59	Fixed data-1 (Initialized data)	
5A	00	STD gain adj.
5B	Fixed data-1 (Initialized data)	
5C	36	LV Standard data input
5D	10	
5E	0B	MAX gain adj.
5F	6E	
60 to F9	Fixed data-1 (Initialized data)	

4. 6E Page table

Note 1: If reading/writing data on pages 6E, set data: 06 to page: 0, address: 10, and then select pages: E. By this data setting, the pages 6E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

5. 6F Page table

Note 1: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
10 to FF	Fixed data-1 (Initialized data)	

6. 7C Page table

Note 1: If reading/writing data on pages 7C, set data: 07 to page: 0, address: 10, and then select pages: C. By this data setting, the pages 7C can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

7. 7E Page table

Note 1: If reading/writing data on pages 7E, set data: 07 to page: 0, address: 10, and then select pages: E. By this data setting, the pages 7E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

8. 7F Page table

Note 1: If reading/writing data on pages 7F, set data: 07 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 7F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00	80	PSD Sensor Gradient Adjustment
01	80	
02	02	
03	C2	
04	02	
05	C2	
06	00	
07	00	
08	00	
09	00	
0A	00	
0B	00	
0C	00	
0D	00	
0E	00	
0F	00	
10	00	
11	00	
12	00	
13	00	
14	00	
15	00	
16	00	
17	00	
18	00	
19	00	
1A	00	
1B	00	
1C	00	
1D	00	
1E	00	
1F	00	
20	60	Angular Velocity Sensor Sensitivity Adjustment
21	60	
22 to 7F	Fixed data-1 (Initialized data)	

9. 8C Page table

Note 1: If reading/writing data on pages 8C, set data: 08 to page: 0, address: 10, and then select pages: C. By this data setting, the pages 8C can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to 45	Fixed data-1 (Initialized data)	
46	Fixed data-2	
47 to DE	Fixed data-1 (Initialized data)	
DF	Fixed data-2	
E0	Fixed data-1 (Initialized data)	
E1	Fixed data-2	
E2 to F9	Fixed data-1 (Initialized data)	

10. 8D Page table

Note 1: If reading/writing data on pages 8D, set data: 08 to page: 0, address: 10, and then select pages: D. By this data setting, the pages 8D can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

11. 8E Page table

Note 1: If reading/writing data on pages 8E, set data: 08 to page: 0, address: 10, and then select pages: E. By this data setting, the pages 8E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to 08	Fixed data-1 (Initialized data)	
09 to 0E	Fixed data-2	
0F, 10	Fixed data-1 (Initialized data)	
11 to 16	Fixed data-2	
17, 18	Fixed data-1 (Initialized data)	
19 to 1C	Fixed data-2	
1D	Fixed data-1 (Initialized data)	
1E	Fixed data-2	
1F, 20	Fixed data-1 (Initialized data)	
21 to 24	Fixed data-2	
25	Fixed data-1 (Initialized data)	
26	Fixed data-2	
27, 28	Fixed data-1 (Initialized data)	
29 to 2C	Fixed data-2	
2D	Fixed data-1 (Initialized data)	
2E	Fixed data-2	
2F to 38	Fixed data-1 (Initialized data)	
39 to 3E	Fixed data-2	
3F, 40	Fixed data-1 (Initialized data)	
41 to 44	Fixed data-2	
45 to 48	Fixed data-1 (Initialized data)	
49	Fixed data-2	
4A to 50	Fixed data-1 (Initialized data)	
51	Fixed data-2	
52 to 58	Fixed data-1 (Initialized data)	
59	Fixed data-2	
5A to 66	Fixed data-1 (Initialized data)	
67	Fixed data-2	
68 to 7E	Fixed data-1 (Initialized data)	
7F	Fixed data-2	
80 to FF	Fixed data-1 (Initialized data)	

12. 8F Page table

Note 1: If reading/writing data on pages 8F, set data: 08 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 8F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00	Fixed data-1 (Initialized data)	
01 to 05	Fixed data-2	
06 to 08	Fixed data-1 (Initialized data)	
09	Fixed data-2	
0A to 0F	Fixed data-1 (Initialized data)	
10	Fixed data-2	
11, 12	Fixed data-1 (Initialized data)	
13	Fixed data-2	
14 to 32	Fixed data-1 (Initialized data)	
33	Fixed data-2	
34	Fixed data-1 (Initialized data)	
35	Fixed data-2	
36 to 38	Fixed data-1 (Initialized data)	
39	Fixed data-2	
3A	Fixed data-1 (Initialized data)	
3B	Fixed data-2	
3C to 77	Fixed data-1 (Initialized data)	
78 to 7A	Fixed data-2	
7B to 7D	Fixed data-1 (Initialized data)	
7E, 7F	Fixed data-2	
80 to 8F	Fixed data-1 (Initialized data)	
90, 91	Fixed data-2	
92 to A3	Fixed data-1 (Initialized data)	
A4, A5	Fixed data-2	
A6 to C1	Fixed data-1 (Initialized data)	
C2	Fixed data-2	
C3 to E1	Fixed data-1 (Initialized data)	
E2	Fixed data-2	
E3	Fixed data-1 (Initialized data)	
E4, E5	Fixed data-2	
E6 to FF	Fixed data-1 (Initialized data)	

13. 9D Page table

Note 1: If reading/writing data on pages 9D, set data: 09 to page: 0, address: 10, and then select pages: D. By this data setting, the pages 9D can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to 4F	Fixed data-1 (Initialized data)	

14. 9E Page table

Note 1: If reading/writing data on pages 9E, set data: 09 to page: 0, address: 10, and then select pages: E. By this data setting, the pages 9E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

15. 9F Page table

Note 1: If reading/writing data on pages 9F, set data: 09 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 9F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

16. AD Page table

Note 1: If reading/writing data on pages AD, set data: 0A to page: 0, address: 10, and then select pages: D. By this data setting, the pages AD can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to 4F	Fixed data-1 (Initialized data)	

17. AE Page table

Note 1: If reading/writing data on pages AE, set data: 0A to page: 0, address: 10, and then select pages: E. By this data setting, the pages AE can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to 7B	Fixed data-1 (Initialized data)	
7C, 7D	Fixed data-2	
7E to F1	Fixed data-1 (Initialized data)	

18. AF Page table

Note 1: If reading/writing data on pages AF, set data: 0A to page: 0, address: 10, and then select pages: F. By this data setting, the pages AF can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

19. BE Page table

Note 1: If reading/writing data on pages BE, set data: 0B to page: 0, address: 10, and then select pages: E. By this data setting, the pages BE can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to CA	Fixed data-1 (Initialized data)	
CB to D0	Fixed data-2	
D1 to F9	Fixed data-1 (Initialized data)	

20. BF Page table

Note 1: If reading/writing data on pages BF, set data: 0B to page: 0, address: 10, and then select pages: F. By this data setting, the pages BF can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to 44	Fixed data-1 (Initialized data)	
45	Fixed data-2	
46 to 63	Fixed data-1 (Initialized data)	
64 to 6A	Fixed data-2	
6B to BC	Fixed data-1 (Initialized data)	
BD	Fixed data-2	
BE to FF	Fixed data-1 (Initialized data)	

21. C2 Page table

Note 1: If reading/writing data on pages C2, set data: 0C to page: 0, address: 10, and then select pages: 2. By this data setting, the pages C2 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

22. C3 Page table

Note 1: If reading/writing data on pages C3, set data: 0C to page: 0, address: 10, and then select pages: 3. By this data setting, the pages C3 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

23. C4 Page table

Note 1: If reading/writing data on pages C4, set data: 0C to page: 0, address: 10, and then select pages: 4. By this data setting, the pages C4 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

24. C5 Page table

Note 1: If reading/writing data on pages C5, set data: 0C to page: 0, address: 10, and then select pages: 5. By this data setting, the pages C5 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

25. C6 Page table

Note 1: If reading/writing data on pages C6, set data: 0C to page: 0, address: 10, and then select pages: 6. By this data setting, the pages C6 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to D4	Fixed data-1 (Initialized data)	

26. C7 Page table

Note 1: If reading/writing data on pages C7, set data: 0C to page: 0, address: 10, and then select pages: 7. By this data setting, the pages C7 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

27. C8 Page table

Note 1: If reading/writing data on pages C8, set data: 0C to page: 0, address: 10, and then select pages: 8. By this data setting, the pages C8 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

28. C9 Page table

Note 1: If reading/writing data on pages C9, set data: 0C to page: 0, address: 10, and then select pages: 9. By this data setting, the pages C9 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

29. CA Page table

Note 1: If reading/writing data on pages CA, set data: 0C to page: 0, address: 10, and then select pages: A. By this data setting, the pages CA can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to FF	Fixed data-1 (Initialized data)	

30. CB Page table

Note 1: If reading/writing data on pages CB, set data: 0C to page: 0, address: 10, and then select pages: B. By this data setting, the pages CB can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to D4	Fixed data-1 (Initialized data)	

31. CC Page table

Note 1: If reading/writing data on pages CC, set data: 0C to page: 0, address: 10, and then select pages: C. By this data setting, the pages CC can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 2: Fixed data-1: Initialized data. (Refer to “1. Initializing the Camera Control Data”)
Fixed data-2: Modified data. (Refer to “2. Modification of Camera Control Data”)

Address	Initial value	Remark
00 to C7	Fixed data-1 (Initialized data)	

32. CD Page table

Note 1: If reading/writing data on pages CD, set data: 0C to page: 0, address: 10, and then select pages: D. By this data setting, the pages CD can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to 11	Fixed data-1 (Initialized data)	
12	Fixed data-2	
13 to 1C	Fixed data-1 (Initialized data)	
1D	Fixed data-2	
1E to 2F	Fixed data-1 (Initialized data)	
30 to 32	Fixed data-2	
33	Fixed data-1 (Initialized data)	
34, 35	Fixed data-2	
36	Fixed data-1 (Initialized data)	
37 to 3A	Fixed data-2	
3B	Fixed data-1 (Initialized data)	
3C, 3D	Fixed data-2	
3E	Fixed data-1 (Initialized data)	
3F	Fixed data-2	
40 to 4F	Fixed data-1 (Initialized data)	
50	Fixed data-2	
51 to 53	Fixed data-1 (Initialized data)	
54 to 57	Fixed data-2	
58 to 87	Fixed data-1 (Initialized data)	
88 to 95	Fixed data-2	
96 to 99	Fixed data-1 (Initialized data)	
9A to A3	Fixed data-2	
A4, A5	Fixed data-1 (Initialized data)	
A6 to AB	Fixed data-2	
AC, AD	Fixed data-1 (Initialized data)	
AE to B3	Fixed data-2	
B4, B5	Fixed data-1 (Initialized data)	
B6 to B9	Fixed data-2	
BA to BE	Fixed data-1 (Initialized data)	
BF	Fixed data-2	
C0 to C2	Fixed data-1 (Initialized data)	
C3	Fixed data-2	
C4	Fixed data-1 (Initialized data)	
C5	Fixed data-2	
C6	Fixed data-1 (Initialized data)	
C7	Fixed data-2	
C8	Fixed data-1 (Initialized data)	
C9	Fixed data-2	
CA	Fixed data-1 (Initialized data)	
CB	Fixed data-2	
CC	Fixed data-1 (Initialized data)	
CD	Fixed data-2	
CE	Fixed data-1 (Initialized data)	
CF	Fixed data-2	
D0 to FF	Fixed data-1 (Initialized data)	

33. CE Page table

Note 1: If reading/writing data on pages CE, set data: 0C to page: 0, address: 10, and then select pages: E. By this data setting, the pages CE can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to 03		Fixed data-1 (Initialized data)
04		Fixed data-2
05 to 0F		Fixed data-1 (Initialized data)
10 to 13		Fixed data-2
14 to 1D		Fixed data-1 (Initialized data)
1E, 1F		Fixed data-2
20 to 22		Fixed data-1 (Initialized data)
23, 24		Fixed data-2
25		Fixed data-1 (Initialized data)
26		Fixed data-2
27 to 2A		Fixed data-1 (Initialized data)
2B, 2C		Fixed data-2
2D		Fixed data-1 (Initialized data)
2E to 31		Fixed data-2
32		Fixed data-1 (Initialized data)
33		Fixed data-2
34		Fixed data-1 (Initialized data)
35, 36		Fixed data-2
37 to 3A		Fixed data-1 (Initialized data)
3B, 3C		Fixed data-2
3D to 5C		Fixed data-1 (Initialized data)
5D		Fixed data-2
5E to 79		Fixed data-1 (Initialized data)
7A to 7D		Fixed data-2
7E to 83		Fixed data-1 (Initialized data)
84, 85		Fixed data-2
86 to 91		Fixed data-1 (Initialized data)
92, 93		Fixed data-2
94 to 97		Fixed data-1 (Initialized data)
98 to 9D		Fixed data-2
9E		Fixed data-1 (Initialized data)
9F		Fixed data-2
A0 to C1		Fixed data-1 (Initialized data)
C2 to C5		Fixed data-2
C6 to EE		Fixed data-1 (Initialized data)
EF		Fixed data-2
F0 to FF		Fixed data-1 (Initialized data)

34. CF Page table

Note 1: If reading/writing data on pages CF, set data: 0C to page: 0, address: 10, and then select pages: F. By this data setting, the pages CF can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Fixed data-1: Initialized data. (Refer to "1. Initializing the Camera Control Data")
Fixed data-2: Modified data. (Refer to "2. Modification of Camera Control Data")

Address	Initial value	Remark
00 to 8F		Fixed data-1 (Initialized data)
90 to 9F		Fixed data-2
A0 to B0		Fixed data-1 (Initialized data)
B1 to BD		Fixed data-2
BE		Fixed data-1 (Initialized data)
BF		Fixed data-2
C0 to C7		Fixed data-1 (Initialized data)
C8 to CF		Fixed data-2
D0 to E8		Fixed data-1 (Initialized data)
E9		Fixed data-2
EA		Fixed data-1 (Initialized data)
EB to EF		Fixed data-2
F0 to FF		Fixed data-1 (Initialized data)

1-3. CAMERA SYSTEM ADJUSTMENTS

Before perform the camera system adjustments, check that the specified values of "VIDEO SYSTEM ADJUSTMENTS" are satisfied. (Except Origin Oscillation Check")
Check that the data of page: 0, address: 10 is "00".
If not, select page: 0, address: 10, and set the data "00".

1-3-1. Camera System Adjustments

1. Origin Oscillation Check (VC-597 board)

Check the frequency of the clock for synchronization.
If deviated, the synchronization will be disrupted and the color will become inconsistent.

Subject	Not required
Measurement Point	R1414 (CHCK) on VC-597 board
Measuring Instrument	Frequency counter
Specified value	f = 4.433619 MHz ± 89 Hz

Switch setting

1) POWER ..... CAMERA mode

Checking method:

1) Check that the frequency (f) satisfies the specified value.

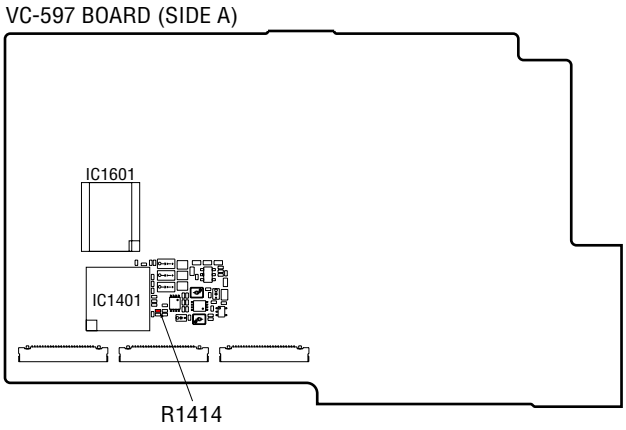


Fig. 6-1-5

2. Coaxial Harness Connecting Check RadarW

Check if the coaxial harness of CMOS is connected correctly.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6
Adjustment Address	D1 to D6
Specified value	Data of page: 6, address: D0 is "07"

Note 1: Check that the data of page: 6, address: 02 is "00"
If not, select page: 6, address: 01, set data: 00, and press the PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	07		Check the data is "04".
3	0	10	09	
4	E (9E)	90	10	
5	E (9E)	80	00	
6	0	10	00	
7	6	01	EB	Press PAUSE (Write) button.(Note 2)
8	6	02		Check the data changes to "01".
9	6	D0		Check the data is "07". (Note 3)

Note 2: The adjustment data will be automatically input to page: 6, address: D1 to D6.

Note 3: For the error codes of bit 0 to bit 2 of data of page: 6, address: D0, see the following table.

Bit value of data of page: 6, address: D0		Error contents	
Bit	Function	When bit value = 0	When bit value = 1
0	R	Error exists	No error
1	G	Error exists	No error
2	B	Error exists	No error

Example: If an error exists in G, data is "05"

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	10	09	
3	E (9E)	90	00	
4	E (9E)	80	70	
5	0	10	00	
6	0	01	00	

3. PSD Sensor Gradient Adjustment (VC-597 board) RadarW

Input average offset voltage of the YAW (SE8502)/PITCH (SE8501) sensors on GY-014 board.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	7F
Adjustment Address	00 to 1F
Specified value	Data of page: 72, address: 02 is “01”

Note 1: Set the camera on a horizontal table.
Note 2: Check that the data of page: 72, address: 02 is “00”
If not, select page: 72, address: 01, set data: 00, and press the PAUSE (Write) button.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	7	
3	2 (72)	01	97	Press PAUSE (Write) button. (Note 3)
4				Wait for 6 seconds.
5	2 (72)	02		Check the data changes to “01”. (Note 4)
6	F (7F)	16		Check the data changes to “11”.
7	2 (72)	01	00	Press PAUSE (Write) button.
8	0	10	00	
9	0	01	00	

Note 3: The adjustment data will be automatically input to page: 7F, address: 00 to 1F.
Note 4: If the data is other than “01”, adjustment has errors. Contents of error is written into page: 7, address: 02. See the following table.

Data of page: 7F, address: 16	Error contents
X, Y = 0	In the middle of adjustment
X, Y = 2	Abnormal termination
X, Y = 1	Normal termination

“X, Y”: X: High 4 bits (Yaw sensor)
Y: Low 4 bits (Pitch sensor)

4. Lens Adjustment RadarW

The inner focus lens MR adjustment is carried out automatically.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	30, 40 to 4F
Specified value	Data of page: 6, address: 0C is “00”

Note 1: Perform the adjustment with the lens in horizontal state.
Note 2: Perform “Flange Back Adjustment ” after this adjustment.
Note 3: If reading/writing data on page 6F, set data: 06 to page: 0, address: 10, and then select page F. By this data setting, the page 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Switch setting
1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is “00”. (Note 4)
3	6	01	BD	Press PAUSE (Write) button. (Note 5)
4	6	02		Check the data changes to “01”.
5	6	0C		Check the data is “00”.

Note 4: If not, select page: 6, address: 01, set data: 00, and press the PAUSE (Write) button.
Note 5: The adjustment data will be automatically input to page: 6F, address: 30, 40 to 4F.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	01	25	Press PAUSE (Write) button.
3	6	02		Check the data changes to “01”.
4	6	01	00	Press PAUSE (Write) button.
5	0	01	00	

5. Zoom Ring Adjustment (MR Sensor)

RadarW

The manual zoom ring MR adjustment is carried out automatically.

Subject	Not required	
Measurement Point	Adjusting remote commander	
Measuring Instrument		
Adjustment Page	6D	6E
Adjustment Address	A9 to AC, AF	FC to FF

Note 1: Perform the adjustment with the lens in horizontal state.

Note 2: If reading/writing data on pages 6D, 6E, set data: 06 to page: 0, address: 10, and then select pages D, E. By this data setting, the pages 6D, 6E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is "00". (Note 3)
3				Turn the zoom ring manually in one direction slowly. It should be turning several times. Continue to turn till the end of adjustment.
4	6	01	5B	Press PAUSE (Write) button. (Note 4)
5	6	02		Check the data changes to "01".
6				Wait for 10 seconds.
7	6	0C		Check the data is "00".

Note 3: If not, select page: 6, address: 01, set data: 00, and press the PAUSE (Write) button.

Note 4: The adjustment data will be automatically input to page: 6D, address: A9 to AC, AF and page: 6E, address: FC to FF.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

6. Focus Ring Adjustment (MR Sensor)

RadarW

The manual focus ring MR adjustment is carried out automatically.

Subject	Not required	
Measurement Point	Adjusting remote commander	
Measuring Instrument		
Adjustment Page	6D	6E
Adjustment Address	A5 to A8, AD to AF	FA, FB

Note 1: Perform the adjustment with the lens in horizontal state.

Note 2: If reading/writing data on pages 6D, 6E, set data: 06 to page: 0, address: 10, and then select pages D, F. By this data setting, the pages 6D, 6E can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is "00". (Note 3)
3				Turn the focus ring manually in one direction slowly. It should be turning several times. Continue to turn till the end of adjustment.
4	6	01	59	Press PAUSE (Write) button. (Note 4)
5	6	02		Check the data changes to "01".
6				Wait for 10 seconds.
7	6	0C		Check the data is "00".

Note 3: If not, select page: 6, address: 01, set data: 00, and press the PAUSE (Write) button.

Note 4: The adjustment data will be automatically input to page: 6D, address: A5 to A8, AD to AF and page: 6E, address: FA, FB.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

7. Flange Back Adjustment
(Using the minipattern box or flange back adjustment jig)

[Preparation (Using the minipattern box)]

1) The minipattern box is installed as shown in the following figure.
   Note: The attachment lenses are not used.
2) Install the minipattern box so that the distance between it and the front of lens of camera is less than 3 cm.
3) Make the height of minipattern box and the camera equal.
4) Check the output voltage of the regulated power supply is the specified voltage ± 0.01 Vdc.
5) Check that the center of Siemens star chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

Specified voltage: The specified voltage varies according to the minipattern box, so adjustment the power supply output voltage to the specified voltage written on the sheet which is supplied with the minipattern box.

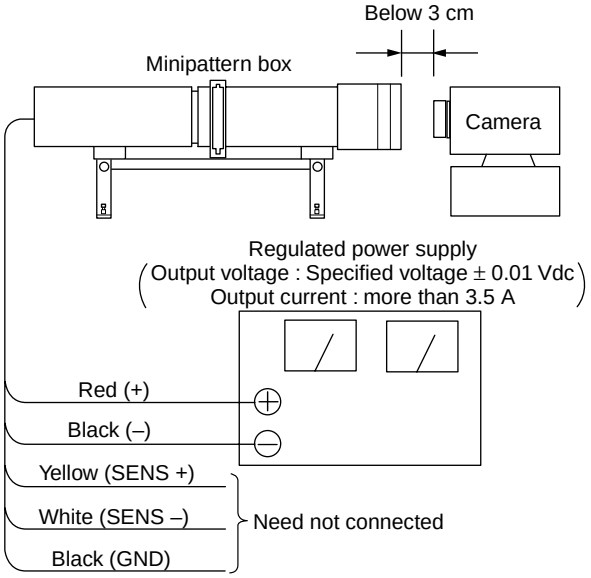


Fig. 6-1-6

[Preparation (Using the flange back adjustment jig)]
(Illuminance: 550 to 650 lux)

1) Install the flange back adjustment jig so that the distance between it and the front of lens of camera is less than 3 cm.
2) Make the height of flange back adjustment jig and the camera equal.
3) Check that the center of chart meets the center of shot image screen with the zoom lens at TELE end and WIDE end respectively.

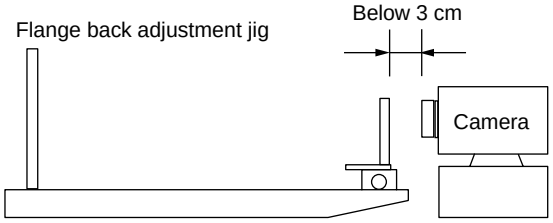


Fig. 6-1-7

7-1. Flange Back Adjustment RadarW
(Using the minipattern box or flange back adjustment jig)

Perform the flange back adjustment. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart for minipattern box (Note 1) or flange back adjustment jig
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	20 to 3F
Specified value	Data of page: 06, address: 0C is “00”

Note 1: Dark Siemens star chart.
Note 2: Perform “PSD Sensor Gradient Adjustment”, “Lens Adjustment”, “Zoom Ring Adjustment”, “Focus Ring Adjustment” after this adjustment.
Note 3: Perform the adjustment with the lens in horizontal state.
Note 4: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.
Note 5: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.
Note 6: Don't touch the zoom ring during adjustment.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	BF	19	AA	
3	BF	90	80	
4	6	61	01	
5				Wait for 3 seconds.
6	0	10	09	
7	F (9F)	4A	83	
8	F (9F)	4B	80	(Note 10)
9	0	10	00	
10	6	02		Check the data is “00”.
11	6	99		Check the data is “00”.
12	6	4D	40	
13	6	64	04	
14	0	10	07	
15	E (7E)	10		Set the bit value of bit1 is “0”, and press PAUSE (Write) button. (Note 8)
16	0	10	00	
17	6	40	01	
18	6	01	13	Press PAUSE (Write) button.
19				Wait for 1 seconds.
20	6	01	27	Press PAUSE (Write) button.
21	6	02		Check the data changes to “01”.
22	6	0C		Check the data is “00”.

Note 7: After adjustment, if the focusing to a subject located at infinity failed, increase the ilIlluminance of the chart and perform readjustment.

Note 8: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Note 9: The adjustment data will be automatically input to page: 6F, address: 20 to 3F.

Note 10: The center line portion of chart should be in the AF detection frame “A” at the TELE end.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	64	00	
3	6	4D	00	
4	6	40	00	
5	0	10	07	
6	E (7E)	10		Set the bit value of bit1 is “1”, and press PAUSE (Write) button. (Note 7)
7	0	10	00	
8	6	61	00	
9				Wait for 3 seconds.
10	0	10	09	
11	F (9F)	4A	00	
12	F (9F)	4B	00	
13	0	10	00	
14	6	01	25	Press PAUSE (Write) button.
15	6	02		Check the data changes to “01”.
16	6	01	00	Press PAUSE (Write) button.
17	BF	19	AB	
18	BF	90	40	Press PAUSE (Write) button.
19	0	01	00	

AF Detection Frame Display

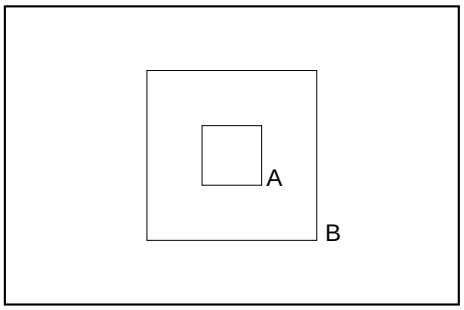


Fig. 6-1-8

7-2. Optical Axis Adjustment RadarW

Correct the disorder of the center axis of the optical system.

Adjustment Page	7F
Adjustment Address	30 to 3F

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 07.
3) Input the following data to page: F (7F), address: 30 to 3F.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

Address	Data
30	00
31	00
32	00
33	00
34	00
35	00
36	00
37	00
38	00
39	00
3A	00
3B	00
3C	00
3D	00
3E	00
3F	00

4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

8. Flange Back Check (Using the flange back adjustment jig)

Subject	Flange back adjustment jig (Illuminance: approx. 300 ± 50 lux) (Used siemens star chart)
Measurement Point	Check operation on monitor TV
Measuring Instrument	(Note 2)
Specified value	Focused at the TELE end and WIDE end

Note 1: Check that the data of page: 0, address: 10 is "00".
Note 2: Check with the monitor larger than 40 inches.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF

Checking method:

Order	Page	Address	Data	Procedure
1				Shoot the chart with the zoom TELE end.
2	0	01	01	
3	6	01	00	Press PAUSE (Write) button.
4	6	61	01	
5				Wait for 3 seconds.
6	6	2C	02	
7	6	40	01	
8	6	41	01	
9	6	4D	40	
10	6	01	13	Press PAUSE (Write) button.
11				Wait for 1 second.
12				Check that the lens is focused while zooming from TELE end to WIDE end.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	2C	00	
3	6	40	00	
4	6	41	00	
5	6	4D	00	
6	6	61	00	
7				Wait for 3 seconds.
8	0	01	00	

9. Picture Frame Setting (Color reproduction adjustment frame)

Subject	Color bar chart (Color reproduction adjustment frame) 17 cm (PTB-1450) from the front of lens)
Measurement Point	VIDEO OUT jack (75 Ω terminated)
Measuring Instrument	Oscilloscope and monitor TV (16:9)
Specified Value	A=B, C=D, E=F

Note 1: "Flange Back Adjustment" before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is "00".

Switch setting

1) POWER ..... CAMERA mode
2) D.EXTENDER (Menu setting) ..... OFF
3) STEADY SHOT (Menu setting) ..... OFF

Setting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	40	01	
3				Adjust the zoom and the camera direction, and set the specified position.
4				Mark the position of the picture frame on the monitor TV, and adjust the picture frame to this position in following adjustment using "Color reproduction adjustment frame".
5	0	10	00	

How to read the XH, XL, YH and YL data:

Order	Page	Address	Data	Procedure
1	0	03	18	
2	1			Read XH data and XL data. (Note 3)
3	0	03	22	
4	1			Read YH data and YL data. (Note 3)

Note 3: The right four digits of the page: 1 displayed data of the adjusting remote commander.

1:XX : XX
- XL or YL data
- XH or YH data

How to reset the zoom and focus when they deviated:
If the zoom and focus deviated due to some reason, reset them in the following method.

Order	Page	Address	Data	Procedure
1	6	40	01	
2	6	2C	01	
3	6	90	XL	
4	6	91	XH	
5	6	92	YL	
6	6	93	YH	
7	6	01	79	Press PAUSE (Write) button.

How to release the picture frame setting:

Order	Page	Address	Data	Procedure
1	6	40	00	
2	6	01	00	Press PAUSE (Write) button.
3	6	90	00	
4	6	91	00	
5	6	92	00	
6	6	93	00	
7	6	2C	00	
8	0	01	00	

Check on the oscilloscope

1. Horizontal period

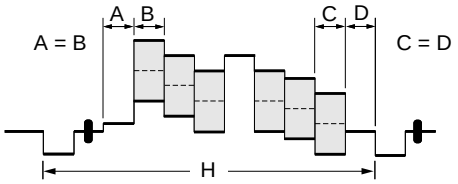


Fig. 6-1-9

2. Vertical period

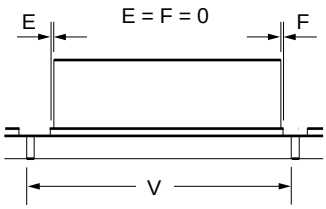


Fig. 6-1-10

Check on the monitor TV (Underscanned mode)

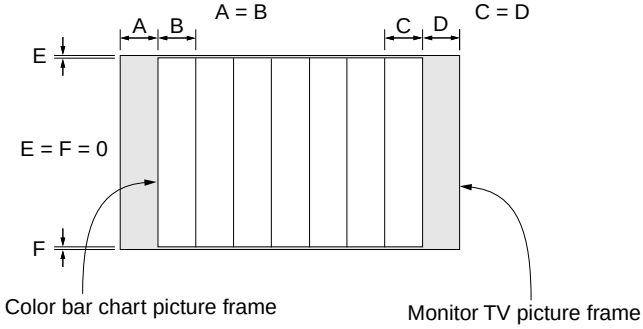


Fig. 6-1-11

10. Black Balance Adjustment RadarW

Adjust the black level.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6E
Adjustment Address	C6 to EF

Note 1: If reading/writing data on pages 6E, set data: 06 to page: 0, address: 10, and then select pages E. By this data setting, the pages 6E can be selected.

After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Check that the data of page: 6, address: 02 is "00"
If not, select page: 6, address: 01, set data: 00, and press the PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is "00".
3	6	07		Check the data is "04".
4	6	01	BF	Press PAUSE (Write) button. (Note 3)
5	6	02		Check the data changes to "01".

Note 3: The adjustment data will be automatically input to page: 6E, address: C6 to EF.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

11. Linear Matrix Adjustment RadarW

Adjust the matrix coefficient for compensating the variation in spectral sensitivity.

Adjustment Page	6D	6F
Adjustment Address	B0 to F7	60 to 71

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 06.
3) Input the following data to page: D (6D), address: B0 to F7 and page: F (6F), address: 60 to 71.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

6D page data:

Address	Data	Address	Data
B0	04	D4	05
B1	00	D5	04
B2	00	D6	FF
B3	00	D7	5A
B4	00	D8	00
B5	00	D9	1D
B6	00	DA	FF
B7	00	DB	AA
B8	04	DC	04
B9	00	DD	77
BA	00	DE	FF
BB	00	DF	92
BC	00	E0	FF
BD	00	E1	FA
BE	00	E2	FF
BF	00	E3	F4
C0	04	E4	04
C1	00	E5	1C
C2	04	E6	05
C3	00	E7	2A
C4	00	E8	FF
C5	00	E9	72
C6	00	EA	FF
C7	00	EB	D4
C8	00	EC	FF
C9	00	ED	90
CA	04	EE	04
CB	00	EF	CD
CC	00	F0	FF
CD	00	F1	1F
CE	00	F2	FF
CF	00	F3	F4
D0	00	F4	FF
D1	00	F5	ED
D2	04	F6	04
D3	00	F7	2C

6F page data:

Address	Data	Address	Data
60	20	69	00
61	00	6A	00
62	00	6B	00
63	00	6C	00
64	00	6D	00
65	00	6E	00
66	00	6F	00
67	00	70	20
68	20	71	00

4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

12. Auto White Balance Standard Data Input RadarW

Adjust the white balance reference at 3200K, and adjust the normal coefficient of the light value.

Subject	Clear chart (Color reproduction adjustment frame)
Adjustment Page	6F
Adjustment Address	88 to 8B

Note 1: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF
3) D.EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is "00".
3	6	02		Check the data is "00".
4	6	07		Check the data is "04".
5	6	61	01	
6				Wait for 3 seconds.
7	6	40	01	
8	6	41	01	
9	6	01	0B	Press PAUSE (Write) button. (Note 3)
10	6	02		Check the data changes to "01".

Note 3: The adjustment data will be automatically input to page: 6F, address: 88 to 8B.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	40	00	
3	6	41	00	
4	6	61	00	
5	0	01	00	

13. LV Standard Data Input RadarW

Adjust the normal coefficient of the light value at 3200K.

Adjustment Page	6D
Adjustment Address	5C, 5D

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 06.
3) Input the following data to page: D (6D), address: 5C and 5D.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

Address	Data
5C	36
5D	2B

4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

14. STD GAIN Adjustment RadarW

Correct a variation in the CMOS sensitivity setting.
As the CMOS sensitivity is dominant on the variation, correct it with the AGC_GAIN standard setting.

Adjustment Page	6D
Adjustment Address	5A

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 06.
3) Input the following data to page: D (6D), address: 5A.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

Address	Data
5A	1E

4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

15. MAX GAIN Adjustment RadarW

Correct a variation in the CMOS sensitivity setting.
As the CMOS sensitivity is dominant on the variation, correct it with the AGC_GAIN standard setting.

Adjustment Page	6D
Adjustment Address	5E, 5F

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 06.
3) Input the following data to page: D (6D), address: 5E and 5F.

Note: Press the PAUSE (Write) button of the adjustment remote commander each time to set data.

Address	Data
5E	0B
5F	6E

4) Select page: 0, address: 10, and set data: 00.
5) Select page: 0, address: 01, and set data: 00.

16. Auto White Balance Adjustment RadarW

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Adjustment Page	6F
Adjustment Address	84 to 87, 98 to 9B

Note 1: Perform “Auto White Balance Standard Data Input” before this adjustment.

Note 2: If reading/writing data on page 6F, set data: 06 to page: 0, address: 10, and then select pages: D, F. By this data setting, the page 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is “00”.
4	6	02		Check the data is “00”.
5	6	07		Check the data is “04”.
6	6	61	01	
7				Wait for 3 seconds.
8	6	40	01	
9	6	41	01	
10	0	10	06	
11	F (6F)	84	2A	Press PAUSE (Write) button.
12	F (6F)	85	E7	Press PAUSE (Write) button.
13	F (6F)	86	5B	Press PAUSE (Write) button.
14	F (6F)	87	5C	Press PAUSE (Write) button.
15	0	10	00	
16	6	01	81	Press PAUSE (Write) button. (Note 4)
17	6	02		Check the data changes to “01”.

Note 4: The adjustment data will be automatically input to page: 6F, address: 98 to 9B.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	40	00	
3	6	41	00	
4	6	61	00	
5	0	01	00	
6				Remove the C14 filter on the lens.

17. Auto White Balance Check RadarW

Subject	Clear chart (Color reproduction adjustment frame)
Filter	ND filter 1.0, 0.4 and 0.1
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Auto White Balance Standard Data Input”, “LV Standard Data Input” and “Auto White Balance Adjustment” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Checking method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	9B		Check the bit value of bit2 is “0”. (Note 3)
3	6	99		Check the data is “00”.
4	6	07		Check the data is “04”.
5	6	61	01	
6				Wait for 3 seconds.
7	6	40	01	
8	6	41	01	
9	6	CA	85	
10	6	C9	10	
OUTDOOR white balance check				
11	6	01	4F	Press PAUSE (Write) button.
12	6	02		Check the data changes to “01”.
13	6	0C		Check the data is “00”.
14	6	01	00	Press PAUSE (Write) button.
INDOOR white balance check				
15	6	01	0F	Press PAUSE (Write) button.
16	6	02		Check the data changes to “01”.
17	6	0C		Check the data is “00”.
18	6	01	00	Press PAUSE (Write) button.
19	6	61	00	
20				Wait for 3 seconds.
InOut check				
21				Place the ND filter 1.5 (1.0 +0.4 + 0.1) on the lens.
22	6	C9	11	
23	6	01	4B	Press PAUSE (Write) button.
24	6	02		Check the data changes to “01”.
25	6	0C		Check the data is “00”.
26	6	01	00	Press PAUSE (Write) button.
27				Remove the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	C9	00	
2	6	CA	00	
4	6	40	00	
6	6	41	00	
7	0	01	00	

18. Color Reproduction Adjustment RadarW

Adjust the color separation matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart (Color reproduction adjustment frame)
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	B0 to B7, A8 to AF
Specified Value	Data of page: 6 address: 0C is “00”

Note 1: Perform “Linear Matrix Adjustment” and “Auto White Balance Standard Data Input” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is “00”.
3	6	02		Check the data is “00”.
4	6	9B		Check the bit value of bit2 is “0”. (Note 4)
5	6	9B		Check the bit value of bit3 is “0”. (Note 4)
6	6	07		Check the data is “04”.
7	6	15	A0	
8	6	61	01	
9				Wait for 3 seconds.
10	6	40	01	
11	6	41	01	
12	6	C9	10	
13	6	CA	04	
14	6	D0	35	
15	6	01	61	Press PAUSE (Write) button. (Note 5)
16	6	02		Check the data changes to “01”.
17	6	0C		Check the data is “00”.

Note 4: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Note 5: The adjustment data will be automatically input to page: 6F, address: B0 to B7, A8 to AF.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	C9	00	
3	6	CA	00	
4	6	40	00	
5	6	41	00	
6	6	15	00	
7	6	61	00	
8	0	01	00	

19. Color Reproduction Check (Outdoor) RadarW

Subject	Color bar chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Color Reproduction Adjustment” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Checking method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is “00”.
4	6	02		Check the data is “00”.
5	6	9B		Check the bit value of bit2 is “0”. (Note 3)
6	6	9B		Check the bit value of bit3 is “0”. (Note 3)
7	6	07		Check the data is “04”.
8	6	15	A0	
9	6	61	01	
10				Wait for 3 seconds.
11	6	40	01	
12	6	41	01	
13	6	C9	10	
14	6	CA	04	
15	6	D0	35	
16	6	01	3D	Press PAUSE (Write) button.
17	6	02		Check the data changes to “01”.
18	6	0C		Check the data is “00”.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	C9	00	
3	6	CA	00	
4	6	40	00	
5	6	41	00	
6	6	15	00	
7	6	61	00	
8	0	01	00	
9				Remove the C14 filter on the lens.

20. Auto White Balance Standard Data Input (ND1) RadarW

Adjust the white balance reference at 3200K, and adjust the normal coefficient of the light value.

Subject	Clear chart (Color reproduction adjustment frame)
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	8C to 8F
Specified Value	Data of page: 6 address: 0C is “00”

Note 1: Perform “Linear Matrix Adjustment” and “Auto White Balance Standard Data Input” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) D.EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is “01”.
3	6	02		Check the data is “00”.
4	6	07		Check the data is “04”.
5	6	61	01	
6				Wait for 3 seconds.
7	6	40	01	
8	6	41	01	
9	6	01	0B	Press PAUSE (Write) button. (Note 4)
10	6	02		Check the data changes to “01”.
11	6	0C		Check the data is “00”.

Note 4: The adjustment data will be automatically input to page: 6F, address: 8C to 8F.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	40	00	
3	6	41	00	
4	6	61	00	
5	0	01	00	

21. Auto White Balance Adjustment (ND1) RadarW

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Adjustment Page	6F
Adjustment Address	9C to 9F

Note 1: Perform “Linear Matrix Adjustment” and “Auto White Balance Standard Data Input” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is “01”.
4	6	02		Check the data is “00”.
5	6	07		Check the data is “04”.
6	6	40	01	
7	6	41	01	
8	6	01	81	Press PAUSE (Write) button. (Note 4)
9	6	02		Check the data changes to “01”.

Note 4: The adjustment data will be automatically input to page: 6F, address: 9C to 9F.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	40	00	
3	6	41	00	
4	0	01	00	
5				Remove the C14 filter on the lens.

22. Auto White Balance Check (ND1) RadarW

Subject	Clear chart (Color reproduction adjustment frame)
Filter	ND filter 1.0, 0.4 and 0.1
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Auto White Balance Standard Data Input (ND1)”, “LV Standard Data Input” and “Auto White Balance Adjustment (ND1)” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 1
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Checking method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	9B		Check the bit value of bit2 is “0”. (Note 3)
3	6	99		Check the data is “01”.
4	6	07		Check the data is “04”.
5	6	61	01	
6				Wait for 3 seconds.
7	6	40	01	
8	6	41	01	
9	6	CA	85	
10	6	C9	10	
OUTDOOR white balance check				
11	6	01	4F	Press PAUSE (Write) button.
12	6	02		Check the data changes to “01”.
13	6	0C		Check the data is “00”.
14	6	01	00	Press PAUSE (Write) button.
INDOOR white balance check				
15	6	01	0F	Press PAUSE (Write) button.
16	6	02		Check the data changes to “01”.
17	6	0C		Check the data is “00”.
18	6	01	00	Press PAUSE (Write) button.
19	6	61	00	
20				Wait for 3 seconds.
InOut check				
21				Place the ND filter 1.5 (1.0 +0.4 + 0.1) on the lens.
22	6	C9	11	
23	6	01	4B	Press PAUSE (Write) button.
24	6	02		Check the data changes to “01”.
25	6	0C		Check the data is “00”.
26	6	01	00	Press PAUSE (Write) button.
27				Remove the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	C9	00	
2	6	CA	00	
3	6	40	00	
4	6	41	00	
5	0	01	00	

23. Auto White Balance Standard Data Input (ND2) RadarW

Adjust the white balance reference at 3200K, and adjust the normal coefficient of the light value.

Subject	Clear chart (Color reproduction adjustment frame)
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	90 to 93
Specified Value	Data of page: 6 address: 0C is “00”

Note 1: Perform “Linear Matrix Adjustment” and “Auto White Balance Standard Data Input” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 2
3) D.EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is “02”.
3	6	02		Check the data is “00”.
4	6	07		Check the data is “04”.
5	6	40	01	
6	6	41	01	
7	6	01	0B	Press PAUSE (Write) button. (Note 4)
8	6	02		Check the data changes to “01”.
9	6	0C		Check the data is “00”.

Note 4: The adjustment data will be automatically input to page: 6F, address: 90 to 93.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	40	00	
3	6	41	00	
4	0	01	00	

24. Auto White Balance Adjustment (ND2) RadarW

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Adjustment Page	6F
Adjustment Address	A0 to A3

Note 1: Perform “Linear Matrix Adjustment” and “Auto White Balance Adjustment” before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to “00”.

Note 3: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 2
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is “02”.
4	6	02		Check the data is “00”.
5	6	07		Check the data is “04”.
6	6	40	01	
7	6	41	01	
8	6	13	BF	
9	6	01	81	Press PAUSE (Write) button. (Note 4)
10	6	02		Check the data changes to “01”.

Note 4: The adjustment data will be automatically input to page: 6F, address: A0 to A3.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	40	00	
3	6	41	00	
4	6	13	00	
5	0	01	00	
6				Remove the C14 filter on the lens.

26. Auto White Balance Standard Data Input (ND3) RadarW

Adjust the white balance reference at 3200K, and adjust the normal coefficient of the light value.

Subject	Clear chart (Color reproduction adjustment frame)
Measurement Point	Adjusting remote commander
Measuring Instrument	
Adjustment Page	6F
Adjustment Address	94 to 97
Specified Value	Data of page: 6 address: 0C is "00"

Note 1: Perform "Linear Matrix Adjustment" and "Auto White Balance Standard Data Input" before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 3: Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 3
3) D.EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	99		Check the data is "03".
3	6	02		Check the data is "00".
4	6	07		Check the data is "04".
5	6	40	01	
6	6	41	01	
7	6	13	BF	
8	6	01	0B	Press PAUSE (Write) button. (Note 4)
9	6	02		Check the data changes to "01".
10	6	0C		Check the data is "00".

Note 4: The adjustment data will be automatically input to page: 6F, address: 94 to 97.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	40	00	
3	6	41	00	
4	6	13	00	
5	0	01	00	

27. Auto White Balance Adjustment (ND3) RadarW

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Adjustment Page	6F
Adjustment Address	A4 to A7

Note 1: Perform "Linear Matrix Adjustment" and "Auto White Balance Adjustment" before this adjustment.

Note 2: If reading/writing data on pages 6F, set data: 06 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 6F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 3: Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 3
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Adjusting method:

Order	Page	Address	Data	Procedure
1				Place the C14 filter on the lens.
2	0	01	01	
3	6	99		Check the data is "03".
4	6	02		Check the data is "00".
5	6	07		Check the data is "04".
6	6	40	01	
7	6	41	01	
8	6	13	BD	
9	6	01	81	Press PAUSE (Write) button. (Note 4)
10	6	02		Check the data changes to "01".

Note 4: The adjustment data will be automatically input to page: 6F, address: A4 to A7.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	40	00	
3	6	41	00	
4	6	13	00	
5	0	01	00	
6				Remove the C14 filter on the lens.

25. Auto White Balance Check (ND2) RadarW

Subject	Clear chart (Color reproduction adjustment frame)
Filter	ND filter 1.0, 0.4 and 0.1
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Auto White Balance Standard Data Input (ND2)”, “LV Standard Data Input” and “Auto White Balance Adjustment (ND2)” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 2
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Checking method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	9B		Check the bit value of bit2 is “0”. (Note 3)
3	6	99		Check the data is “02”.
4	6	07		Check the data is “04”.
5	6	40	01	
6	6	41	01	
7	6	CA	85	
8	6	C9	10	
OUTDOOR white balance check				
9	6	01	4F	Press PAUSE (Write) button.
10	6	02		Check the data changes to “01”.
11	6	0C		Check the data is “00”.
12	6	01	00	Press PAUSE (Write) button.
INDOOR white balance check				
13	6	01	0F	Press PAUSE (Write) button.
14	6	02		Check the data changes to “01”.
15	6	0C		Check the data is “00”.
16	6	01	00	Press PAUSE (Write) button.
InOut check				
17				Place the ND filter 1.5 (1.0 +0.4 + 0.1) on the lens.
18	6	C9	11	
19	6	13	BF	
20				Wait for 1 second.
21	6	01	4B	Press PAUSE (Write) button.
22	6	02		Check the data changes to “01”.
23	6	0C		Check the data is “00”.
24	6	01	00	Press PAUSE (Write) button.
25				Remove the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	C9	00	
2	6	CA	00	
3	6	40	00	
4	6	41	00	
5	6	13	00	
6	0	01	00	

28. Auto White Balance Check (ND3) RadarW

Subject	Clear chart (Color reproduction adjustment frame)
Filter	ND filter 1.0, 0.4 and 0.1
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified Value	Data of page: 6, address: 0C is “00”

Note 1: Perform “Auto White Balance Standard Data Input (ND3)”, “LV Standard Data Input” and “Auto White Balance Adjustment (ND3)” before this adjustment.

Note 2: Check that the data of page: 6, address: 02 is “00”. If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER 3
3) D. EXTENDER (Menu setting) ..... OFF
4) STEADY SHOT (Menu setting) ..... OFF

Checking method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	9B		Check the bit value of bit2 is “0”. (Note 3)
3	6	99		Check the data is “03”.
4	6	07		Check the data is “04”.
5	6	40	01	
6	6	41	01	
7	6	CA	85	
8	6	C9	10	
9	6	13	BF	
OUTDOOR white balance check				
10	6	01	4F	Press PAUSE (Write) button.
11	6	02		Check the data changes to “01”.
12	6	0C		Check the data is “00”.
13	6	01	00	Press PAUSE (Write) button.
INDOOR white balance check				
14	6	01	0F	Press PAUSE (Write) button.
15	6	02		Check the data changes to “01”.
16	6	0C		Check the data is “00”.
17	6	01	00	Press PAUSE (Write) button.
InOut check				
18				Place the ND filter 1.5 (1.0 +0.4 + 0.1) on the lens.
19	6	C9	11	
20	6	13	BE	
21				Wait for 3 seconds.
22	6	01	4B	Press PAUSE (Write) button.
23	6	02		Check the data changes to “01”.
24	6	0C		Check the data is “00”.
25	6	01	00	Press PAUSE (Write) button.
26				Remove the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.

Note 3: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	C9	00	
2	6	CA	00	
3	6	40	00	
4	6	41	00	
5	6	13	00	
6	0	01	00	

29. White Defect & HS Defect Adjustment RadarW

Detect white defective pixels of CMOS image sensor.

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified value	Data of page: 6 address: D3 is “00”

Note 1: Perform “MAX GAIN Adjustment” before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is “00”.
Note 3: Check that the data of page: 6, address: 02 is “00”.
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Preparation for adjustment:

1) Before starting the adjustment, perform the aging to raise the temperature so that the set becomes ready for adjustment.

Aging temperature judge mode:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	09	
3	F (9F)	5D	1D	Press PAUSE (Write) button.
4				During the aging, the screen will be as follows. (Fig. 6-1-12)
5				When the aging completed, execute the subsequent steps to exit the aging temperature judge mode.
6	F (9F)	5D	00	Press PAUSE (Write) button.
7	0	10	00	
8	0	01	00	

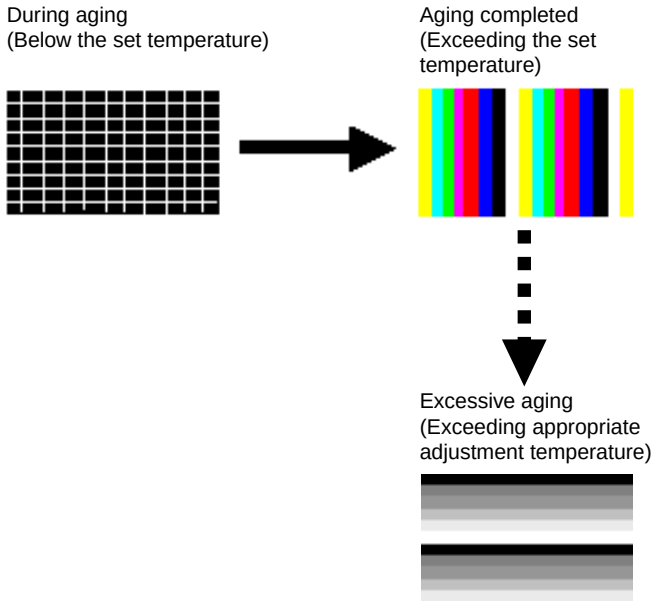


Fig.6-1-12

CMOS temperature checking method:

Order	Page	Address	Data	Procedure
1	0	FF	06	
2	7	78		Check the data is “00”.
3	7	79		Check the data is “1D” to “2A”. (Note 4)
4	0	FF	00	

Note 4: If the data is other than “1D” to “2A”, perform the aging.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is “00”.
3	6	07		Check the data is “04”.
4	6	D0	81	
5	6	01	21	Press PAUSE (Write) button.
6	6	02		Check the data changes to “01”.
7	6	01	00	Press PAUSE (Write) button.
8	6	D0	06	
9	6	01	21	Press PAUSE (Write) button.
10	6	02		Check the data changes to “01”.
11	6	D3		Check the data is “00”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

30. White Defect Adjustment RadarW

Detect white defective pixels (FD white point) of CMOS image sensor.

Subject	Not required

Note 1: Perform “White Defect & HS Defect Adjustment” before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is “00”.
Note 3: Check that the data of page: 6, address: 02 is “00”.
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is “00”.
3	6	07		Check the data is “04”.
4	6	D0	0C	
5	6	01	21	Press PAUSE (Write) button.
6	6	02		Check the data changes to “01”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

31. White Defect Check RadarW

Subject	Not required
Measurement Point	Adjusting remote commander
Measuring Instrument	
Specified value 1	Data of page: 6 address: D1 is “00”
Specified value 2	Data of page: 6, address: D2 is “00” to “06”

Note 1: Perform “White Defect Adjustment” before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is “00”.
Note 3: Check that the data of page: 6, address: 02 is “00”.
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is “00”.
3	6	07		Check the data is “04”.
4	6	D0	04	
5	6	01	21	Press PAUSE (Write) button.
6	6	02		Check the data changes to “01”.
7	6	D1		Check the data is “00”.
8	6	D2		Check the data is “00” to “06”.

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	0	01	00	

32. Black Defect Adjustment 1 (Bch) RadarW

Detect black defective pixels of CMOS image sensor.

Subject	Clear chart (All white) (Note 1)

Note 1: Shoot the clear chart with the zoom TELE end.
Note 2: Perform "White Defect Check" before this adjustment.
Note 3: Check that the data of page: 0, address: 10 is "00".
Note 4: Check that the data of page: 6, address: 02 is "00".
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF
3) ZOOM switch (Lens block) ..... SERVO

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is "00".
3	6	07		Check the data is "04".
4	6	99		Check the data is "00".
5	6	2C	01	
6	6	90	00	
7	6	91	04	
8	6	92	00	
9	6	93	10	
10	6	01	79	Press PAUSE (Write) button.
11				Wait for 4 seconds.
12	6	01	00	Press PAUSE (Write) button.
13				Check that the entire screen is white.
14	6	D0	01	
15	6	D1	01	
16	6	01	21	Press PAUSE (Write) button.
17	6	02		Check the data changes to "01".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	90	00	
3	6	91	00	
4	6	92	00	
5	6	93	00	
6	6	01	79	Press PAUSE (Write) button.
7				Wait for 4 seconds.
8	6	01	00	Press PAUSE (Write) button.
9	6	2C	00	
10	0	01	00	

33. Black Defect Adjustment 2 (Gch) RadarW

Detect black defective pixels of CMOS image sensor.

Subject	Clear chart (All white) (Note 1)

Note 1: Shoot the clear chart with the zoom TELE end.
Note 2: Perform "White Defect Check" before this adjustment.
Note 3: Check that the data of page: 0, address: 10 is "00".
Note 4: Check that the data of page: 6, address: 02 is "00".
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF
3) ZOOM switch (Lens block) ..... SERVO

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is "00".
3	6	07		Check the data is "04".
4	6	99		Check the data is "00".
5	6	2C	01	
6	6	90	00	
7	6	91	04	
8	6	92	00	
9	6	93	10	
10	6	01	79	Press PAUSE (Write) button
11				Wait for 4 seconds.
12	6	01	00	Press PAUSE (Write) button.
13				Check that the entire screen is white.
14	6	D0	01	
15	6	D1	02	
16	6	01	21	Press PAUSE (Write) button.
17	6	02		Check the data changes to "01".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	90	00	
3	6	91	00	
4	6	92	00	
5	6	93	00	
6	6	01	79	Press PAUSE (Write) button.
7				Wait for 4 seconds.
8	6	01	00	Press PAUSE (Write) button.
9	6	2C	00	
10	0	01	00	

34. Black Defect Adjustment 3 (Rch) RadarW

Detect black defective pixels of CMOS image sensor.

Subject	Clear chart (All white) (Note 1)

Note 1: Shoot the clear chart with the zoom TELE end.
Note 2: Perform "White Defect Check" before this adjustment.
Note 3: Check that the data of page: 0, address: 10 is "00".
Note 4: Check that the data of page: 6, address: 02 is "00".
If not, select page: 6, address: 01, set data: 00, and press PAUSE (Write) button.

Switch setting

1) POWER ..... CAMERA mode
2) ND FILTER ..... OFF
3) ZOOM switch (Lens block) ..... SERVO

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	6	02		Check the data is "00".
3	6	07		Check the data is "04".
4	6	99		Check the data is "00".
5	6	2C	01	
6	6	90	00	
7	6	91	04	
8	6	92	00	
9	6	93	10	
10	6	01	79	Press PAUSE (Write) button.
11				Wait for 4 seconds.
12	6	01	00	Press PAUSE (Write) button.
13				Check that the entire screen is white.
14	6	D0	01	
15	6	D1	04	
16	6	01	21	Press PAUSE (Write) button.
17	6	02		Check the data changes to "01".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	6	01	00	Press PAUSE (Write) button.
2	6	90	00	
3	6	91	00	
4	6	92	00	
5	6	93	00	
6	6	01	79	Press PAUSE (Write) button.
7				Wait for 4 seconds.
8	6	01	00	Press PAUSE (Write) button.
9	6	2C	00	
10	0	01	00	

35. Angular Velocity Sensor Sensitivity Adjustment

- Perform the angular velocity sensor sensitivity adjustment only when replacing the angular velocity sensor or lens block. When the microprocessor, circuit, etc. malfunctions, do not perform this adjustment but check operations only.
- Record the sensitivity label of the angular velocity sensor (repair part), including to which side of the board it was attached to, etc. If it has been attached incorrectly, the image will move up and down or to the left and right during steady shot operation. Be sure to take note of this.

Precautions on the Parts Replacement

There are two types of repair parts.

Type A ENC03RC – 04
Type B ENC03RD

Replace the broken sensor with a same type sensor. If replace with other type parts, the image will vibrate up and down or left and right during hand-shake correction operations. After replacing, readjust according to the adjusting method after replacement.

Precautions on Angular Velocity Sensor

The sensor incorporates a precision oscillator. Handle it with care as if it dropped, the balance of the oscillator will be disrupted and operations will not be performed properly.

35-1. Angular Velocity Sensor Sensitivity Adjustment (1)

Adjustment Page	7F (Note 1)
Adjustment Address	20

Note 1: If reading/writing data on pages 7F, set data: 07 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 7F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".
Note 2: The PITCH sensor (SE8501 of GY-014 board) sensitivity is labeled only the repair parts.

Preparation

1) Read the PITCH sensor (SE8501 of GY-014 board) sensitivity written on repair parts, and named this as S_{20}.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	07	
3				Calculate D_{20}' using following equations. (decimal calculation) (Note 3) $D_{20}' = 129 \times (60/S_{20})$
4				Convert D_{20}' to a hexadecimal number, and obtain D_{20}. (Note 4)
5	F (7F)	20	D_{20}	Press PAUSE (Write) button.
6	0	10	00	

Note 3: S_{20} is read in "Preparation".
Note 4: Refer to table 6-4-1. "Hexadecimal-decimal conversion table".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	0	01	00	
2				Check that the steady shot function operates normally.

35-2. Angular Velocity Sensor Sensitivity Adjustment (2)

Adjustment Page	7F (Note 1)
Adjustment Address	21

Note 1: If reading/writing data on pages 7F, set data: 07 to page: 0, address: 10, and then select pages: F. By this data setting, the pages 7F can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

Note 2: The YAW sensor (SE8502 of GY-014 board) sensitivity is labeled only the repair parts.

Preparation

1) Read the YAW sensor (SE8502 of GY-014 board) sensitivity written on repair parts, and named this as S_{21}.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	07	
3				Calculate D_{21}' using following equations. (decimal calculation) (Note 3) $D_{21}' = 128 \times (60/S_{21})$
4				Convert D_{21}' to a hexadecimal number, and obtain D_{21}. (Note 4)
5	F (7F)	21	D_{21}	Press PAUSE (Write) button.
6	0	10	00	

Note 3: S_{21} is read in "Preparation".

Note 4: Refer to table 6-4-1. "Hexadecimal-decimal conversion table".

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	0	01	00	
2				Check that the steady shot function operates normally.

36. Set to Normal Mode

Note: After perform the camera adjustments, be sure to set to normal mode.

Perform the following data setting.

Order	Page	Address	Data	Procedure
1	9F	26	Bit:0 ➡0	
2	07	83	00	
3	07	01	D1	
4	07	04	00	
5	07	02	FF	
6	07	00	01	Press PAUSE (Write) button.
7	07	02		Check the data is "01".
8	07	01	BD	
9	07	04	01	
10	07	02	FF	
11	07	00	01	Press PAUSE (Write) button.
12	07	02		Check the data is "01".
13	0A	10	00	Press PAUSE (Write) button.
14	00	01	00	
15				Reset the hardware.

1-4. ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS

Before perform the viewfinder system adjustments, check the data of page: 0, address: 10 is “00”.
If not, select page: 0, address: 10, and set the data “00”.

Note 1: Taken an extreme care not to destroy the liquid crystal display module by static electricity when replacing it.

1. EVF Gain Adjustment (VF-178 board) RadarW

This adjustment does the following items automatically.
RGB Amp Adjustment
Contrast Adjustment

Mode	VTR stop (VCR mode)
Signal	No signal
Adjustment Page	C
Adjustment Address	A9 to AE
Specified value	The data of page :3, address: 03 is “00”

Note 1: Check that the data of page: 0, address: 10 is “00”.

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	0	10	01	
4	8 (18)	AF		Set the bit value of bit1 is “1”, and press PAUSE (Write) button. (Note 2)
5	8 (18)	AC	04	Press PAUSE (Write) button.
6	8 (18)	A3	44	Press PAUSE (Write) button.
7	0	10	00	
8	3	03	FF	Press PAUSE (Write) button.
9	3	01	6B	Press PAUSE (Write) button. (Note 3)
10	3	03		Check the data is "00". (Note 4)
11	3	70	10	Press PAUSE (Write) button.
12	3	70		Check the data changes to “11”.
13	0	01	00	

Note 2: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.

Note 3: The adjustment data will be automatically input to page: C, address: A9 to AE.

Note 4: If the data is other than “00”, adjustment has errors. Contents of error is written into page: 3, address: 03. See the following table.

Data of page: 3, address: 03	Contents of error
81	EVF_G adjustment error
82	EVF_R adjustment error
83	EVF_B adjustment error.

1-5. LCD SYSTEM ADJUSTMENTS

Before perform the LCD system adjustments, check that the data of page: 0, address: 10 is “00”.
If not, select page: 0, address: 10, and set the data “00”.

Note 1: Taken an extreme care not to destroy the liquid crystal display module by static electricity when replacing it.
Note 2: Set the “LCD BRIGHT”, “LCD COLOR” to the center with the menu settings of the LCD panel.
Note 3: Open the LCD panel during the LCD system adjustment.

1. PANEL Gain Adjustment (PD-372 board) RadarW

This adjustment does the following items automatically.
RGB Amp Adjustment
Contrast Adjustment

Mode	VTR stop (VCR mode)
Signal	No signal
Adjustment Page	C
Adjustment Address	A6 to A8, AF to B1
Specified value	The data of page: 3, address: 03 is “00”

Note 1: Check that the data of page: 0, address: 10 is “00”.

Switch setting:
VIDEO OUT ..... LCD
(Page: 7, address: 4F, Bit1 = 0)

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	0	10	01	
4	8 (18)	AF		Set the bit value of bit1 is “1”, and press PAUSE (Write) button. (Note 2)
5	8 (18)	AC	04	Press PAUSE (Write) button.
6	8 (18)	A3	44	Press PAUSE (Write) button.
7	0	10	00	
8	3	03	FF	Press PAUSE (Write) button.
9	3	01	6A	Press PAUSE (Write) button. (Note 3)
10	3	03		Check the data is "00". (Note 4)
11	3	70	10	Press PAUSE (Write) button.
12	3	70		Check the data changes to “11”.
13	0	01	00	

Note 2: For the bit values, refer to “6-4. SERVICE MODE”, “4-4. 3. Bit value discrimination”.
Note 3: The adjustment data will be automatically input to page: C, address: A6 to A8, AF to B1.
Note 4: If the data is other than “00”, adjustment has errors. Contents of error is written into page: 3, address: 03. See the following table.

Data of page: 3, address: 03	Contents of error
01	PANEL_G adjustment error
02	PANEL_R adjustment error
03	PANEL_B adjustment error

2. V-COM Adjustment (PD-372 board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.
If deviated, the LCD display will be move, producing flicker and conspicuous vertical lines.

Mode	VTR stop (VCR mode)
Signal	No signal
Measurement Point	Check on LCD screen
Measuring Instrument	
Adjustment Page	C
Adjustment Address	A1
Specified Value	The brightness difference between the section-A and section-B is minimum

Note 1: Perform "PANEL Gain Adjustment" before this adjustment.
Note 2: Check that the data of page: 0, address: 10 is "00".

Switch setting
VIDEO OUT ..... LCD
(Page: 7, address: 4F, Bit1 = 0)

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	7	01	95	
4	7	04	00	
5	7	00	01	Press PAUSE (Write) button.
6	C	A1	70	
7	C	A1		Change the data so that brightness of the section A and section B is equal.
8	C	A1		Set a value obtained by adding 3 to the fore mentioned data, and press PAUSE (Write) button.
9	7	01	95	
10	7	04	01	
11	7	00	01	Press PAUSE (Write) button.
12	3	70	10	Press PAUSE (Write) button.
13	3	70		Check the data changes to "11".
14	0	01	00	

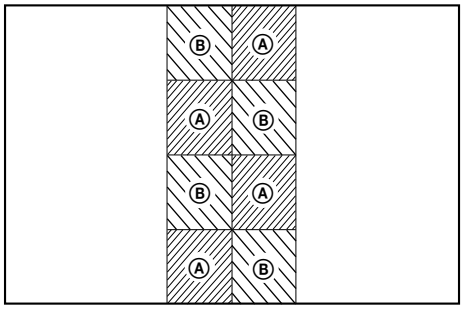


Fig. 6-1-13

3. Transmissive Mode White Balance Adjustment (PD-372 board)

Correct the white balance at transmissive mode.
If deviated, the LCD screen color cannot be reproduced.

Mode	VTR stop (VCR mode)
Signal	No signal
Measurement Point	Check on LCD screen
Measuring Instrument	
Adjustment Page	C
Adjustment Address	A2, A3
Specified Value	LCD screen must not be colored

Note 1: Check that the data of page: 0, address: 10 is "00".
Note 2: Check the white balance only when replacing the following parts. If necessary, adjust them.
1. LCD block
2. Light induction plate
3. IC6001

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	7	01	95	
4	7	04	00	
5	7	00	01	Press PAUSE (Write) button.
6	C	A2	20	Press PAUSE (Write) button.
7	C	A3	20	Press PAUSE (Write) button.
8				Check that the LCD screen is not colored. If not colored, proceed to step 10.
9	C	A2 A3		Change the data so that the LCD screen is not colored. (Note 3)
10	7	01	95	
11	7	04	01	
12	7	00	01	Press PAUSE (Write) button.
13	3	70	10	Press PAUSE (Write) button.
14	3	70		Check the data changes to "11".
15	0	01	00	

Note 3: To write in the non-volatile memory (EEPROM), press the PAUSE (Write) button each time to set the data.

6-2. MECHANISM SECTION ADJUSTMENTS

On the mechanism section adjustment

For details of mechanism section adjustments, checks, and replacement of mechanism parts, refer to the separate volume "DV MECHANICAL ADJUSTMENT MANUAL IX N Mechanism".

Note: Before performing the adjustments, check the data of page: 0, address: 10 is "00". If not, set data: 00 to this address.

2-1. HOW TO ENTER RECORD MODE WITHOUT CASSETTE

1) Connect the adjustment remote commander to the LANC jack.
2) Set the HOLD switch to ON. (Set the slide switch to SERVICE).
3) Close the cassette compartment without the cassette.
4) Select page: 3, address: 01, set data: 0C, and press the PAUSE (Write) button of the adjustment remote commander.
   (The mechanism enters the record mode automatically.)
   Note: The function buttons become inoperable.
5) To quit the record mode, select page: 3, address: 01, set data: 00, and press the PAUSE (Write) button of the adjustment remote commander. (Whenever you want to quit the record mode, be sure to quit following this procedure.)

2-2. HOW TO ENTER PLAYBACK MODE WITHOUT CASSETTE

1) Connect the adjustment remote commander (Ref. No. J-1, J-2) to the LANC jack.
2) Set the HOLD switch to ON. (Set the slide switch to SERVICE).
3) Close the cassette compartment without the cassette.
4) Select page: 3, address: 01, set data: 0B, and press the PAUSE (Write) button of the adjustment remote commander.
   (The mechanism enters the playback mode automatically.)
   Note: The function buttons become inoperable.
5) To quit the playback mode, select page: 3, address: 01, set data: 00, and press the PAUSE (Write) button of the adjustment remote commander. (Whenever you want to quit the playback mode, be sure to quit following this procedure.)

2-3. TAPE PATH ADJUSTMENT

1. Preparation for Adjustment

1) Clean the tape running side (tape guide, drum, capstan shaft, pinch roller, etc.).
2) Connect the adjustment remote commander to the LANC jack.
3) Set the HOLD switch to ON. (Set the slide switch to SERVICE).
4) Connect an oscilloscope to VC-597 board CN1004 via the CPC-13 Connecting jigs. (J-6082-443-A)
   Channel 1: VC-597 board, CN1004 Pin ⑲ (Note)
   External trigger: VC-597 board, CN1004 Pin ⑰
   Note: Connect a 75 Ω resistor between pins ⑲ of CN1004 and ⑳ (GND).
   75 Ω resistor (Parts code: 1-247-804-11)
5) Playback the alignment tape for tracking. (XH2-1) (Ref. No. J-12)
6) Select page: 3, address: 33, and set data: 08.
7) Select page: 3, address: 26, set data: 31, and press the PAUSE (Write) button.
8) Check that the oscilloscope RF waveform is normal at the entrance and exit.
   If not normal, adjust according to the separate volume "DV MECHANICAL ADJUSTMENT MANUAL IX N Mechanism".

CN1004 of VC-597 board

Pin No.	Signal Name	Pin No.	Signal Name
1	XSYS_RST	11	EEP_SI_S
2	XCS_MC_FLASH	12	EEP_SI_C
3	XCS_MC_FLASH_C	13	GND
4	MD2	14	GND
5	MD2_C	15	REG_GND
6	D_2.8V	16	FRRV
7	EEP_SCK_S	17	SWP
8	EEP_SCK_C	18	REG_GND
9	EEP_SO_S	19	RF_MON
10	EEP_SO_C	20	REG_GND

2. Procedure after operations

1) Connect the adjustment remote commander to the LANC jack. Set the HOLD switch to ON. (Set the slide switch to SERVICE).
2) Select page: 3, address: 26, set data: 00, and press the PAUSE (Write) button.
3) Select page: 3, address: 33, and set data: 00.

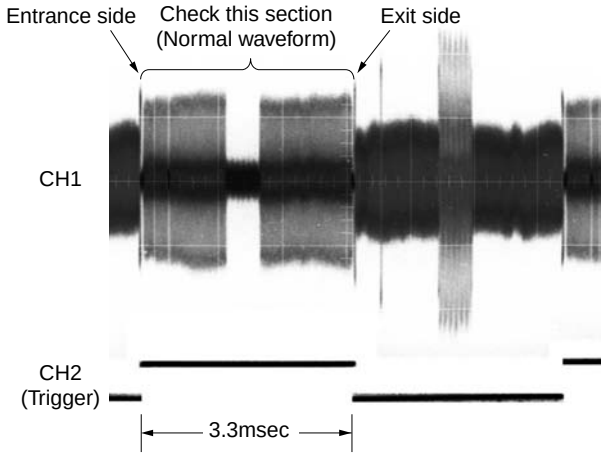


Fig. 6-2-1

6-3. VIDEO SECTION ADJUSTMENTS

3-1. PREPARATIONS BEFORE ADJUSTMENTS

3-1-1. Precautions on Adjusting

Note: Before performing the adjustment, check the data of page: 0, address: 10 is "00". If not, select page: 0, address: 00, and set data "00".

1) The adjustments of this unit are performed in the VTR mode (VCR mode) or camera mode (CAMERA mode).

3-1-2. Adjusting Connectors

The measuring point of the playback RF signal is CN1004 of VC-597 board. Connect the measuring instruments via the CPC-13 jig (J-6082-443-A). Refer to "MECHANISM SECTION ADJUSTMENT" for the measuring method. The following table lists the test pin numbers of CPC-13 jig, and the pin numbers and signal names of CN1004.

Pin No.	Signal Name	Pin No.	Signal Name
1 (20)	REG_GND	11 (10)	EEP_SO_C
2 (19)	RF_MON	12 (9)	EEP_SO_S
3 (18)	REG_GND	13 (8)	EEP_SCK_C
4 (17)	SWP	14 (7)	EEP_SCK_S
5 (16)	FRRV	15 (6)	D_2.8V
6 (15)	REG_GND	16 (5)	MD2_C
7 (14)	GND	17 (4)	MD2
8 (13)	GND	18 (3)	XCS_MC_FLASH_C
9 (12)	EEP_SI_C	19 (2)	XCS_MC_FLASH
10 (11)	EEP_SI_S	20 (1)	XSYS_RST

Note: The pin number in ( ) is test terminal number of CN1004 on the VC-597 board.

Table 6-3-1

3-1-3. Connecting the Equipment

Connect the measuring instruments as shown in Fig. 6-3-1, and perform the adjustments.

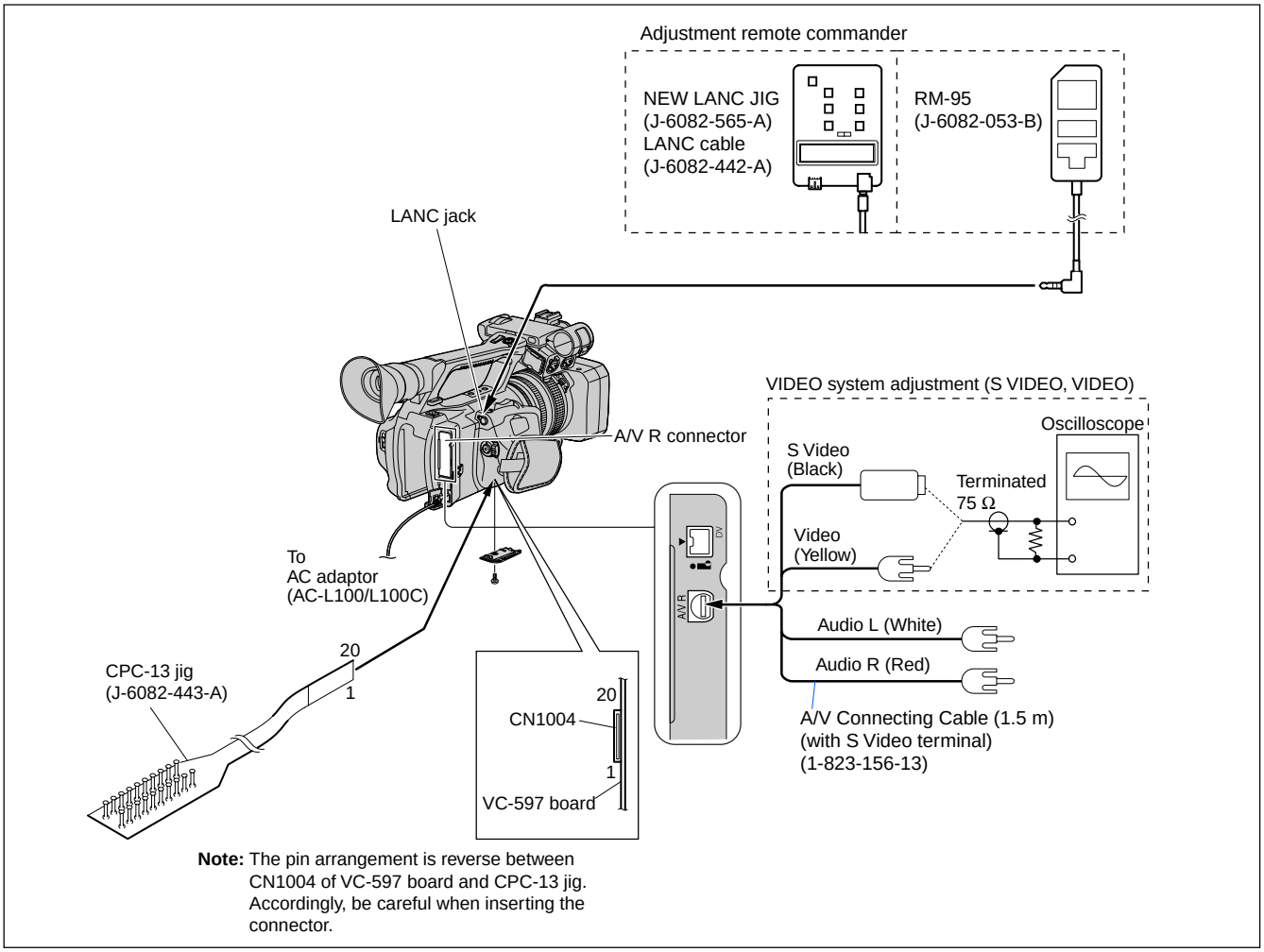


Fig. 6-3-1

3-1-4. Alignment Tapes

Use the alignment tapes shown in the following table.
Use tapes specified in the signal column of each adjustment.

Name	Use
Tracking tape (XH2-1)	Tape path adjustment
SW/OL standard (XH2-3)	Switching position adjustment
Audio operation check (XH5-3P)	Audio system adjustment
System operation check (XH5-5P)	Operation check

Fig. 6-3-2 shows the 75% color bar signals recorded on the alignment tape for Audio Operation Check.

Note: Measure with video terminal (Terminated at 75 Ω)

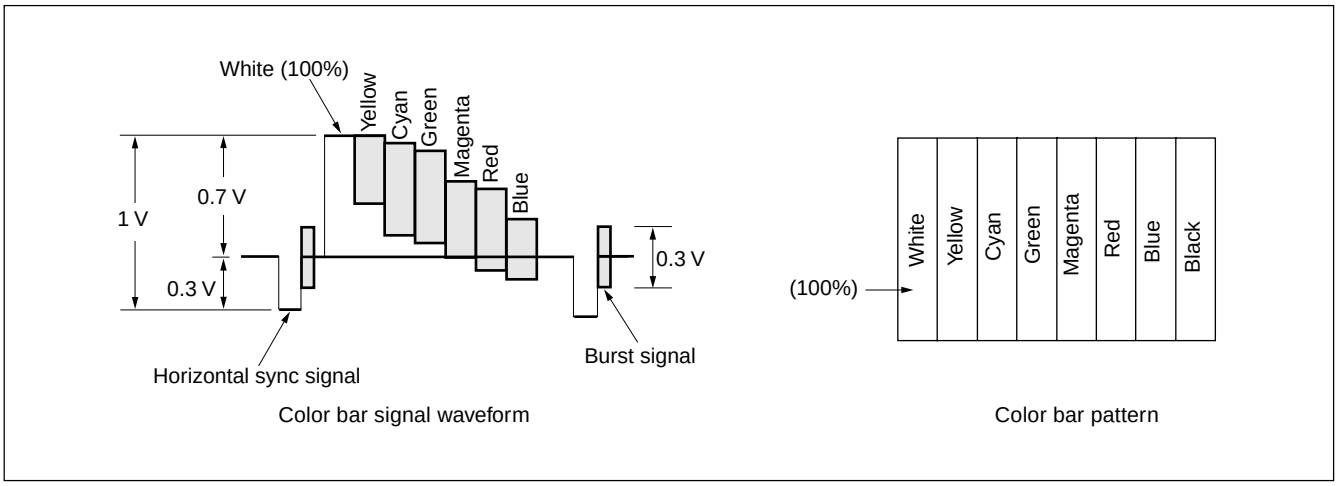


Fig. 6-3-2 Color bar signal of alignment tapes

3-1-5. Output Level and Impedance

A/V Remote Connector

10-pin connector

When A/V connecting cable is connected

Video signal: 1 Vp-p, 75 Ω (ohms)
Luminance signal: 1 Vp-p, 75 Ω (ohms)
Chrominance signal: 0.3 Vp-p (burst signal), 75 Ω (ohms)
Audio signal: -10 dBu (at load impedance 47 kΩ (kilohms)),
Output impedance with less than 2.2 kΩ (kilohms)
(0 dBu=0.775 Vrms)

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENTS

3-2-1. Initialization of EEPROM Data

If the EEPROM data is erased due to some reason, perform "1-2. INITIALIZATION OF EVR DATA ", of "6-1. CAMERA SECTION ADJUSTMENTS"

3-2-2. Node Unique ID No. Input

Note 1: Perform "2-2. Input of Serial No." if the data on page 13 has been cleared and original node unique ID No. is uncertain.
Usually, read the data on page 13 before repair, and write it after repair.

Note 2: If reading/writing data on pages 13, set data: 01 to page: 0, address: 10, and then select pages: 3. By this data setting, the pages 13 can be selected.
After the data reading/writing finished, return the data on page: 0, address: 10 to "00".

2-1. Input of Company ID

Write the company ID to the EEPROM (nonvolatile memory).

Page	13
Address	04, 05, 06, 07

Input method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 71, and set data: 01, then press the PAUSE (Write) button.
3) Select page: 0, address: 10, and set data: 01.
4) Select page: 3 (13), and enter the following data.

Note 3: Each time the data is set, press the PAUSE (Write) button on the adjusting remote commander.

Address	Data
04	08
05	00
06	46
07	01

5)Select page: 0, address: 10, and set data: 00.

6) Select page: 3, address: 70, and set data: 10, then press the PAUSE (Write) button.
7) Select page: 3, address: 70, and check that the data changes to "11".
8) Select page: 0, address: 01, and set data: 00.

2-2. Input of Serial No.

Write the serial No. and model code to the EEPROM (nonvolatile memory).
In writing the serial No., a decimal number should be converted into a hexadecimal number

Page	13
Address	08, 09, 0A, 0B

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 71, and set data: 01, then press the PAUSE (Write) button.
3) Read the serial No. from the model name label, and it is assumed to be D_1.
   Example: If serial No. is "77881",
   $D_1 = 77881$
4) From Table 6-3-2, obtain D_2 and H_1 that correspond to D_1.
   Example: If $D_1 = 77881$,
   $D_2 = D_1 - 65536 = 12345$
   $H_1 = FE$

D_1 (decimal)	D_2 (decimal)	H_1 (hexadecimal) (Service model code)
00001 to 65535	D_1	FE
65536 to 131071	$D_1 - 65536$	FE
131072 to196607	$D_1 - 131072$	FE
196608 to 262143	$D_1 - 196608$	FE
262144 to 327679	$D_1 - 262144$	FE
327680 to 393215	$D_1 - 327680$	FE
393216 to 458751	$D_1 - 393216$	FE
458752 to 524287	$D_1 - 458752$	FE
524288 to 589823	$D_1 - 524288$	FE
589824 to 655359	$D_1 - 589824$	FE
655360 to 720895	$D_1 - 655360$	FE
720896 to 786431	$D_1 - 720896$	FE
786432 to 851967	$D_1 - 786432$	FE
851968 to 917503	$D_1 - 851968$	FE
917504 to 983039	$D_1 - 917504$	FE
983040 to 999999	$D_1 - 983040$	FE

Table 6-3-2

5) Enter H_1 to address: 09 on page: 13.
   Example: If $H_1 = FE$,
   Select page: 0, address: 10, and set data: 01.
   Select page: 3 (13), address: 09, and set data: FE, then press the PAUSE (Write) button.
6) From Table 6-3-3, obtain the maximum decimal number less than D_2, and it is assumed to be D_3.
   Example: If $D_2 = 12345$.
   $D_3 = 12288$
7) From Table 6-3-3, obtain a hexadecimal number that corresponds to D_3, and it is assumed to be H_3.
   Example: If $D_3 = 12288$,
   $H_3 = 3000$
8) Calculate D_4 using following equations (decimal calculation). ($0 \leqq D_4 \leqq 225$)
   $D_4 = D_2 - D_3$
   Example: If $D_2 = 12345$ and $D_3 = 12288$,
   $D_4 = 12345 - 12288 = 57$
9) Convert D_4 into a hexadecimal number to obtain H_4. (See Table 6-4-1 "Hexadecimal - decimal conversion table" in 6-4. Service Mode)
   Example: If $D_4 = 57$,
   $H_4 = 39$
10) Enter higher two digits of H_3 to address: 0A on page: 13.
    Example: If $H_3 = 3000$,
    Select page: 0, address: 10, and set data: 01.
    Select page: 3 (13), address: 0A, and set data: 30, then press the PAUSE (Write) button.
11) Enter H_4 to address: 0B on page: 13.
    Example: If $H_4 = 39$,
    Select page: 0, address: 10, and set data: 01.
    Select page: 3 (13), address: 0B, and set data: 39, then press the PAUSE (Write) button.
12) Select page: 0, address: 10, and set data: 00.
13) Select page: 3, address: 70, and set data: 10, then press the PAUSE (Write) button.
14) Select page: 3, address: 70, and check that the data changes to "11".
15) Select page: 0, address: 01, and set data: 00.

D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3
0	0000	8192	2000	16384	4000	24576	6000	32768	8000	40960	A000	49152	C000	57344	E000
256	0100	8448	2100	16640	4100	24832	6100	33024	8100	41216	A100	49408	C100	57600	E100
512	0200	8704	2200	16896	4200	25088	6200	33280	8200	41472	A200	49664	C200	57856	E200
768	0300	8960	2300	17152	4300	25344	6300	33536	8300	41728	A300	49920	C300	58112	E300
1024	0400	9216	2400	17408	4400	25600	6400	33792	8400	41984	A400	50176	C400	58368	E400
1280	0500	9472	2500	17664	4500	25856	6500	34048	8500	42240	A500	50432	C500	58624	E500
1536	0600	9728	2600	17920	4600	26112	6600	34304	8600	42496	A600	50688	C600	58880	E600
1792	0700	9984	2700	18176	4700	26368	6700	34560	8700	42752	A700	50944	C700	59136	E700
2048	0800	10240	2800	18432	4800	26624	6800	34816	8800	43008	A800	51200	C800	59392	E800
2304	0900	10496	2900	18688	4900	26880	6900	35072	8900	43264	A900	51456	C900	59648	E900
2560	0A00	10752	2A00	18944	4A00	27136	6A00	35328	8A00	43520	AA00	51712	CA00	59904	EA00
2816	0B00	11008	2B00	19200	4B00	27392	6B00	35584	8B00	43776	AB00	51968	CB00	60160	EB00
3072	0C00	11264	2C00	19456	4C00	27648	6C00	35840	8C00	44032	AC00	52224	CC00	60416	EC00
3328	0D00	11520	2D00	19712	4D00	27904	6D00	36096	8D00	44288	AD00	52480	CD00	60672	ED00
3584	0E00	11776	2E00	19968	4E00	28160	6E00	36352	8E00	44544	AE00	52736	CE00	60928	EE00
3840	0F00	12032	2F00	20224	4F00	28416	6F00	36608	8F00	44800	AF00	52992	CF00	61184	EF00
4096	1000	12288	3000	20480	5000	28672	7000	36864	9000	45056	B000	53248	D000	61440	F000
4352	1100	12544	3100	20736	5100	28928	7100	37120	9100	45312	B100	53504	D100	61696	F100
4608	1200	12800	3200	20992	5200	29184	7200	37376	9200	45568	B200	53760	D200	61952	F200
4864	1300	13056	3300	21248	5300	29440	7300	37632	9300	45824	B300	54016	D300	62208	F300
5120	1400	13312	3400	21504	5400	29696	7400	37888	9400	46080	B400	54272	D400	62464	F400
5376	1500	13568	3500	21760	5500	29952	7500	38144	9500	46336	B500	54528	D500	62720	F500
5632	1600	13824	3600	22016	5600	30208	7600	38400	9600	46592	B600	54784	D600	62976	F600
5888	1700	14080	3700	22272	5700	30464	7700	38656	9700	46848	B700	55040	D700	63232	F700
6144	1800	14336	3800	22528	5800	30720	7800	38912	9800	47104	B800	55296	D800	63488	F800
6400	1900	14592	3900	22784	5900	30976	7900	39168	9900	47360	B900	55552	D900	63744	F900
6656	1A00	14848	3A00	23040	5A00	31232	7A00	39424	9A00	47616	BA00	55808	DA00	64000	FA00
6912	1B00	15104	3B00	23296	5B00	31488	7B00	39680	9B00	47872	BB00	56064	DB00	64256	FB00
7168	1C00	15360	3C00	23552	5C00	31744	7C00	39936	9C00	48128	BC00	56320	DC00	64512	FC00
7424	1D00	15616	3D00	23808	5D00	32000	7D00	40192	9D00	48384	BD00	56576	DD00	64768	FD00
7680	1E00	15872	3E00	24064	5E00	32256	7E00	40448	9E00	48640	BE00	56832	DE00	65024	FE00
7936	1F00	16128	3F00	24320	5F00	32512	7F00	40704	9F00	48896	BF00	57088	DF00	65280	FF00

Note: D_3: Decimal
H_3: Hexadecimal

Table 6-3-3

3-3. SERVO AND RF SYSTEM ADJUSTMENTS

Before perform the servo and RF system adjustments, check that the specified values of "Origin Oscillation check" of "1-3. CAMERA SYSTEM ADJUSTMENTS" is satisfied.
Check that the data of page: 0, address: 10 is "00". If not, select page: 0, address: 10, and set the data "00".

Adjusting Procedure:
1. RF adjustment preparation
2. CAP FG duty adjustment
3. Switching position adjustment
4. SD error rate check
5. Processing after adjustments

3-3-1. RF Adjustment Preparation

Turn on both of the LCD panel and EVF to check the influence from the flexible cable from EVF to RF signal.
Set the data before "CAP FG duty adjustment", "Switching position adjustment", "SD error rate check".

Data change method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	C4	67	
3	3	C5	01	
4	7	01	BF	
5	7	02	FF	
6	7	00	01	Press PAUSE (Write) button.
7	7	02		Check the data is "01".
8	0	01	00	

3-3-2. CAP FG Duty Adjustment (VC-597 board)

RadarW

Set the CAP FG signal duty cycle to 50% to establish an appropriate capstan servo. If deviated, the uneven rotation of capstan and noise can occur.

Mode	VTR stop (VCR mode)
Signal	No signal
Measurement Point	Displayed data of page: 3, address: 03
Measuring Instrument	Adjusting remote commander
Adjustment Page	C
Adjustment Address	16
Specified value	The data of page: 3, address: 03 is "00"

Note 1: Check that the data of page: 0, address: 10 is "00".
Adjusting method:

Order	Page	Address	Data	Procedure
1				Close the cassette compartment without inserting cassette.
2	0	01	01	
3	3	71	01	Press PAUSE (Write) button.
4	3	03	FF	Press PAUSE (Write) button.
5	C	16	20	Press PAUSE (Write) button.
6	3	01	1B	Press PAUSE (Write) button.
7	3	02		Check the data changes in the following order "1B" → "2B" → "00"
8	3	03		Check the data is "00". (Note 2)
9	3	01	00	Press PAUSE (Write) button.
10	3	70	10	Press PAUSE (Write) button.
11	3	70		Check the data changes to "11".
12	0	01	00	

Note 2: If the data is "01", adjustment has errors or the mechanism deck is defective.
If the data is "80", the mechanism deck is in emergency state or the end of tape was detected.

3-3-3. Switching Position Adjustment (VC-597 board)

RadarW

Mode	VTR playback (VCR mode)
Signal	SW/OL standard (XH2-3)
Measurement Point	Displayed data of page: 3, address: 03
Measuring Instrument	Adjusting remote commander
Adjustment Page	C
Adjustment Address	10, 11, 12, 13
Specified value	The data of page: 3, address: 03 is "00"

Note 1: Check that the data of page: 0, address: 10 is "00".

Adjusting method:

Order	Page	Address	Data	Procedure
1				Insert the SW/OL standard tape and enter the VTR stop mode.
2	0	01	01	
3	3	71	01	Press PAUSE (Write) button.
4	C	10	EE	Press PAUSE (Write) button.
5	3	03	FF	Press PAUSE (Write) button.
6	3	21		Check the data is "02". (Note 2)
7	3	01	0D	Press PAUSE (Write) button.
8	3	02		Check the data changes to "00".
9	3	03		Check the data is "00". (Note 3)
10	3	01	00	Press PAUSE (Write) button.
11	3	70	10	Press PAUSE (Write) button.
12	3	70		Check the data changes to "11".
13	0	01	00	

Note 2: If the data is "72", the tape top being played. After playing the tape for 1 to 2 seconds, stop it, perform step 5 and higher.
If the data is "62", the tape end being played. After rewind the tape, perform step 5 and higher.

Note 3: If bit0 of the data is "1", the EVEN channel is defective.
If bit1 of the data is "1", the ODD channel is defective.
Contents of the defect is see written into page: C, address: 10 and 12. See following table.
If bit3 of the data is "1", the tape end being played, so rewind the tape and perform the adjustment again.
(For the bit values, refer to "6-4. SERVICE MODE", "4-4. 3. Bit value discrimination".)

When the EVEN channel is defective

Data of page: C, address: 10	Contents of defect
EE	Writing into EEPROM (IC3805) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC2601

When the ODD channel is defective

Data of page: C, address: 12	Contents of defect
EE	Writing into EEPROM (IC3805) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC2601

3-3-4. SD Error Rate Check (VC-597 board) RadarW

Note: Check that the data of page: 0, address: 10 is "00".

4-1. Preparations before adjustments

Mode	Camera recording (CAMERA mode)
Subject	Arbitrary

Switch setting

1) REC FORMAT (Menu setting) ..... DV

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	0	10	01	
4	C (1C)	0D	CC	Press PAUSE (Write) button.
5	0	10	00	
6	3	1D	20	Press PAUSE (Write) button.
7				Record the camera signal for 2 minutes.

4-2. Error Rate Check

Mode	VTR playback (VCR mode)
Subject	Recorded signal at "Preparations before adjustments"
Measurement Point	Displayed data of page: 3, address: 03
Measuring Instrument	Adjusting remote commander
Adjustment Page	C
Adjustment Address	B2 to C7
Specified value	The data of page: 3, address: 03 is "00"

Note 1: Check that the data of page: 0, address: 10 is "00".

Initial Value of Page C: Address: B2 to C7

Address	Initial value	Address	Initial value	Address	Initial value
B2	00	BA	00	C2	80
B3	00	BB	00	C3	00
B4	00	BC	00	C4	00
B5	00	BD	00	C5	00
B6	00	BE	00	C6	00
B7	80	BF	00	C7	00
B8	00	C0	00		
B9	00	C1	00		

Table 6-3-4

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3				Check that the data of page: C, address: B2 to C7 is the initial value. (See Table 6-3-4)
4				Playback the recorded signal at "Preparations before adjustments".
5	3	03	FF	Press PAUSE (Write) button.
6	3	01	40	Press PAUSE (Write) button.
7	3	02		Check the data changes to "00".
8	3	03		Check the data is "00". (Note 2)
9	3	01	00	Press PAUSE (Write) button.
10				Perform "Processing after Completing Adjustments".

Note 2: If the data is other than "00", Error rate is abnormal. For the contents of the abnormality, see the following table.

Data of page: 3, address: 03	Contents of defect
01	EVEN channel is abnormal.
02	ODD channel is abnormal.
03	EVEN channel and ODD channel are abnormal.

Note 3: If Error rate is abnormal, Check the use tape, clean the tape running surface. And after inputting initial values to page C: address: B2 to C7, perform re-adjustment. (See Table 6-3-4)

Processing after Completing Adjustment:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	0	10	01	
3	C (1C)	0D	00	Press PAUSE (Write) button.
4	0	10	00	
5	3	70	10	Press PAUSE (Write) button.
6	3	70		Check the data changes to "11".
7	0	01	00	

3-3-5. Processing After Adjustments

Set the data after “CAP FG duty adjustment”, “Switching position adjustment”, “SD error rate check”.

Data change method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	C4	00	
3	3	C5	00	
4	0	01	00	

3-4. VIDEO SYSTEM ADJUSTMENTS

Before perform the video system adjustments, check that the specified values of "Origin Oscillation Check" of "1-3. CAMERA SYSTEM ADJUSTMENTS" is satisfied.
Check that the data of page: 0, address: 10 is "00".
If not, select page: 0, address: 10, and set the data "00".

Adjusting Procedure:

1. S VIDEO OUT Y level adjustment
2. S VIDEO OUT chroma level adjustment
3. VIDEO OUT level check
4. COMPONENT OUT Y level adjustment
5. COMPONENT OUT Pr level adjustment
6. COMPONENT OUT Pb level adjustment

3-4-1. S VIDEO, VIDEO OUT Adjustment

1-1. Preparations

Perform the following data setting before the "S VIDEO, VIDEO OUT Adjustment".

Order	Page	Address	Data	Procedure
1				Set the unit to VCR mode.
2	0	01	01	
3	7	83	03	
4	3	71	01	Press PAUSE (Write) button.
5	0	10	01	
6	C (1C)	0F	10	Press PAUSE (Write) button.
7	8 (18)	00	01	Press PAUSE (Write) button.
8	8 (18)	01	60	Press PAUSE (Write) button.
9	8 (18)	06	55	Press PAUSE (Write) button.
10	8 (18)	04	C0	Press PAUSE (Write) button.
11				Wait for 3.5 seconds.
12	0	10	00	
13	0	FF	3E	
14	B	00	02	
15	C	85		Check the data is "55".
16	0	FF	00	

1-2. S VIDEO OUT Y Level Adjustment (VC-597 board)

Mode	VCR mode
Signal	No signal
Measurement Point	Y signal terminal of S VIDEO plug of A/V Remote connector (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	7E
Specified value	A = 1000 ± 14 mVp-p

Adjusting method:

Order	Page	Address	Data	Procedure
1				Perform "Preparations"
2	C	7E		Change the data and set the Y signal level (A) to the specified value.
3	C	7E		Press PAUSE (Write) button.
4	C	25		Set a value obtained by adding 3 to the fore mentioned data, and press PAUSE (Write) button.
5				Perform "Processing after Complete Adjustment".

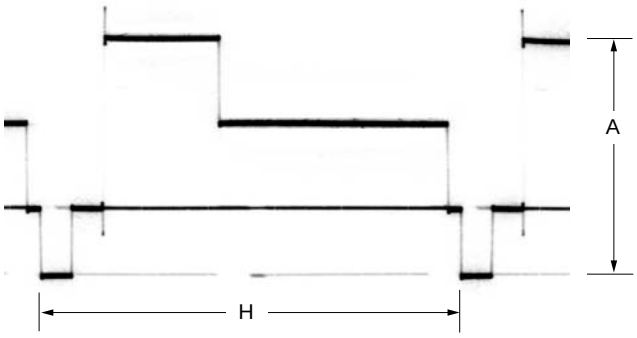


Fig. 6-3-3

1-3. S VIDEO OUT Chroma Level Adjustment (VC-597 board)

Mode	VCR mode
Signal	No signal
Measurement Point	Chroma signal terminal of S VIDEO plug of A/V Remote connector (75 Ω terminated) External trigger: Y signal terminal of S VIDEO plug of A/V Remote connector (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	7F, 80
Specified value	Cr level: A = 700 ± 14 mVp-p Cb level: B = 700 ± 14 mVp-p Burst level: C = 300 ± 6 mVp-p

Adjusting method for NTSC model:

Order	Page	Address	Data	Procedure
1				Perform “Preparations”
2	C	26		Change the data and set the Cr signal level (A) to the specified value.
3	C	26		Press PAUSE (Write) button.
4	C	7F		Set a value obtained by subtracting 5 from the fore mentioned data, and press PAUSE (Write) button.
5	C	27		Change the data and set the Cb signal level (B) to the specified value.
6	C	27		Press PAUSE (Write) button.
7	C	80		Set a value obtained by subtracting 3 from the fore mentioned data, and press PAUSE (Write) button.
8				Check the burst signal (C) to the specified value.
9				Perform “Processing after Complete Adjustment”.

Adjusting method for PAL model:

Order	Page	Address	Data	Procedure
1				Perform “Preparations”
2	C	7F		Change the data and set the Cr signal level (A) to the specified value.
3	C	7F		Press PAUSE (Write) button.
4	C	26		Set a value obtained by adding 5 to the fore mentioned data, and press PAUSE (Write) button.
5	C	80		Change the data and set the Cb signal level (B) to the specified value.
6	C	80		Press PAUSE (Write) button.
7	C	27		Set a value obtained by adding 3 to the fore mentioned data, and press PAUSE (Write) button.
8				Check the burst signal (C) to the specified value.
9				Perform “Processing after Complete Adjustment”.

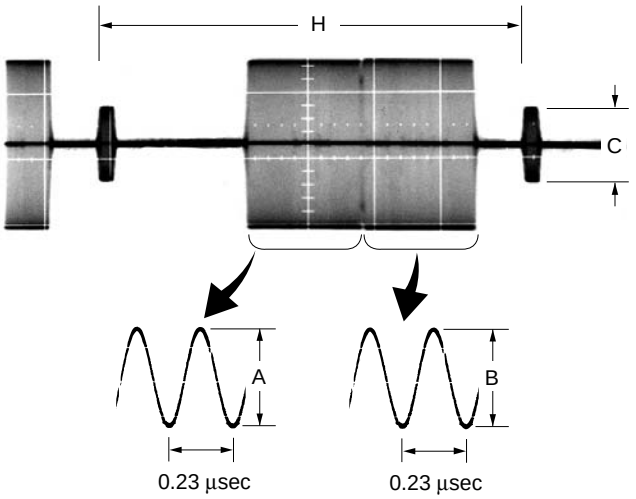


Fig. 6-3-4

1-4. VIDEO OUT Level Check (VC-597 board)

Mode	VCR mode
Signal	No signal
Measurement Point	VIDEO OUT plug of A/V Remote connector (75 Ω terminated)
Measuring Instrument	Oscilloscope
Specified value	Sync level: A = 300 ± 18 mVp-p Burst level: B = 300 ± 18 mVp-p

Checking method:

Order	Page	Address	Data	Procedure
1				Perform “Preparations”
2				Check the sync signal level (A) to the specified value.
3				Check the burst signal level (B) to the specified value.
4				Perform “Processing after Complete Adjustment”.

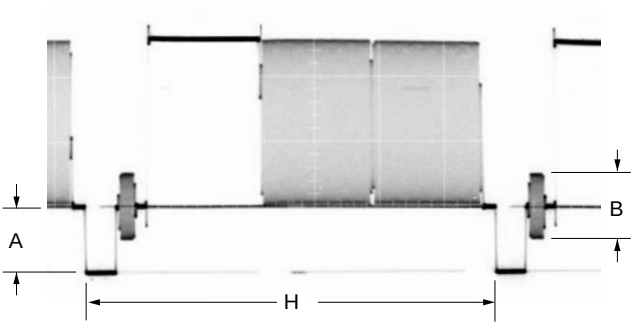


Fig. 6-3-5

1-5. Processing after Complete Adjustment

Perform the setting through the procedure mentioned below when you finish the “S VIDEO, VIDEO OUT Adjustment”.

Order	Page	Address	Data	Procedure
1	0	10	01	
2	C (1C)	0F	00	Press PAUSE (Write) button.
3	8 (18)	04	80	Press PAUSE (Write) button.
4	8 (18)	00	00	Press PAUSE (Write) button.
5	8 (18)	01	00	Press PAUSE (Write) button.
6	8 (18)	06	00	Press PAUSE (Write) button.
7	0	10	00	
8	3	70	10	Press PAUSE (Write) button.
9	3	70		Check the data changes to “11”.
10	7	83	00	
11	0	01	00	

3-4-2. COMPONENT VIDEO OUT Adjustment

2-1. Preparations

Perform the following data setting before the “COMPONENT VIDEO OUT Adjustment”.

Order	Page	Address	Data	Procedure
1				Set the unit to VCR mode.
2	0	01	01	
3	07	01	BD	(Set to HDV Mode)
4	07	04	00	
5	07	02	FF	
6	07	00	01	Press PAUSE (Write) button.
7	07	02		Check the data is “01”.
8	07	01	D1	(Component D3 setting)
9	07	04	02	
10	07	00	01	Press PAUSE (Write) button.
11	07	02		Check the data is “01”.

2-2. COMPONENT OUT Y Level Adjustment (VC-597 board)

Mode	CAMERA mode
Subject	Arbitrary
Measurement Point	Y signal terminal of COMPONENT OUT plug of A/V Remote connector (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	8C
Specified value	Y level: A = 1000 ± 10 mVp-p Sync level: B = C = 300 ± 10 mVp-p

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	7	83	02	
3	3	71	01	Press PAUSE (Write) button.
4	0	10	01	
5	8 (18)	5C		Set the bit value of bit0 is "1", and press PAUSE (Write) button. (Note)
6	8 (18)	5D	05	Press PAUSE (Write) button.
7	0	10	00	
8	C	8C		Change the data and set the Y signal level (A) to the specified value.
8	C	8C		Press PAUSE (Write) button.
10				Check the sync signal (B, C) to the specified value.
11	0	10	01	
12	8 (18)	5C		Set the bit value of bit0 is "0", and press PAUSE (Write) button. (Note)
13	8 (18)	5D	00	Press PAUSE (Write) button.
14	0	10	00	
15	3	70	10	Press PAUSE (Write) button.
16	3	70		Check the data changes to "11".
17	7	83	00	
18	0	01	00	

Note: For the bit values, refer to "6-4. SERVICE MODE", "4-4. 3. Bit value discrimination".

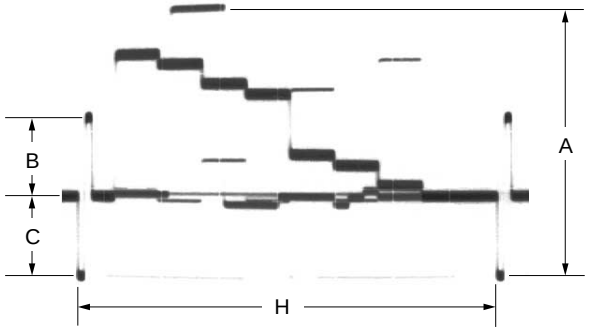


Fig. 6-3-6

2-3. COMPONENT OUT Pr Level Adjustment (VC-597 board)

Mode	CAMERA mode
Subject	Arbitrary
Measurement Point	P_r/C_r signal terminal of COMPONENT OUT plug of A/V Remote connector (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	8E
Specified value	Pr level: A = 525 ± 10 mVp-p Sync level: B = C = 300 ± 10 mVp-p

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	7	83	02	
3	3	71	01	Press PAUSE (Write) button.
4	0	10	01	
5	8 (18)	5C		Set the bit value of bit0 is "1", and press PAUSE (Write) button. (Note)
6	8 (18)	5D	05	Press PAUSE (Write) button.
7	0	10	00	
8	C	8E		Change the data and set the Pr signal level (A) to the specified value.
9	C	8E		Press PAUSE (Write) button.
10				Check the sync signal (B, C) to the specified value.
11	0	10	01	
12	8 (18)	5C		Set the bit value of bit0 is "0", and press PAUSE (Write) button. (Note)
13	8 (18)	5D	00	Press PAUSE (Write) button.
14	0	10	00	
15	3	70	10	Press PAUSE (Write) button.
16	3	70		Check the data changes to "11".
17	7	83	00	
18	0	01	00	

Note: For the bit values, refer to "6-4. SERVICE MODE", "4-4. 3. Bit value discrimination".

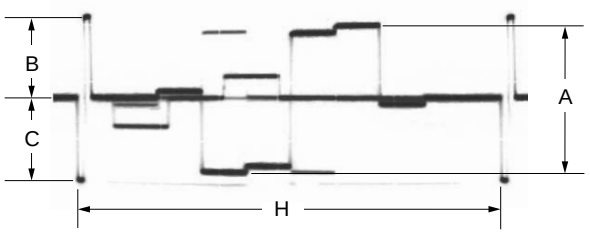


Fig. 6-3-7

2-4. COMPONENT OUT Pb Level Adjustment (VC-597 board)

Mode	CAMERA mode
Subject	Arbitrary
Measurement Point	P_b/C_b signal terminal of COMPONENT OUT plug of A/V Remote connector (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	8D
Specified value	Pb level: A = 525 ± 10 mVp-p Sync level: B = C = 300 ± 10 mVp-p

Adjusting method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	7	83	02	
3	3	71	01	Press PAUSE (Write) button.
4	0	10	01	
5	8 (18)	5C		Set the bit value of bit0 is "1", and press PAUSE (Write) button. (Note)
6	8 (18)	5D	05	Press PAUSE (Write) button.
7	0	10	00	
8	C	8D		Change the data and set the Pb signal level (A) to the specified value.
9	C	8D		Press PAUSE (Write) button.
10				Check the sync signal (B, C) to the specified value.
11	0	10	01	
12	8 (18)	5C		Set the bit value of bit0 is "0", and press PAUSE (Write) button. (Note)
13	8 (18)	5D	00	Press PAUSE (Write) button.
14	0	10	00	
15	3	70	10	Press PAUSE (Write) button.
16	3	70		Check the data changes to "11".
17	7	83	00	
18	0	01	00	

Note: For the bit values, refer to "6-4. SERVICE MODE", "4-4. 3. Bit value discrimination".

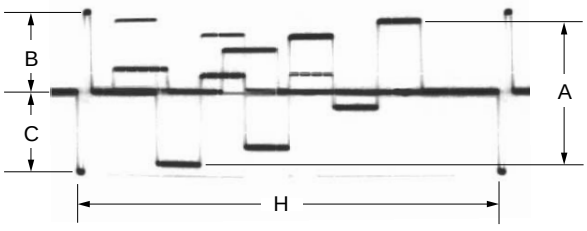


Fig. 6-3-8

2-5. Processing after Complete Adjustment

Note: After the "COMPONENT VIDEO OUT Adjustment", be sure to set to normal mode.

Perform the following data setting.

Order	Page	Address	Data	Procedure
1	07	01	D1	
2	07	04	00	
3	07	02	FF	
4	07	00	01	Press PAUSE (Write) button.
5	07	02		Check the data is "01".
6	07	01	BD	
7	07	04	01	
8	07	02	FF	
9	07	00	01	Press PAUSE (Write) button.
10	07	02		Check the data is "01".
11	00	01	00	
12				Reset the hardware.

3-5. AUDIO SYSTEM ADJUSTMENTS

[Connecting the measuring instruments for the audio]

Connect the audio system measuring instruments as shown in Fig. 6-3-9.

Menu setting (AUDIO SET menu)

XLR SET

1) AU. MAN GAIN ..... SEPARATE

Switch setting

1) INPUT SELECT (CH1) switch INPUT1
2) INPUT SELECT (CH2) switch INPUT2
3) AUTO/MAN (Manual) switch (CH1/CH2) ..... AUTO
4) INPUT switch (CH1/CH2) ..... LINE

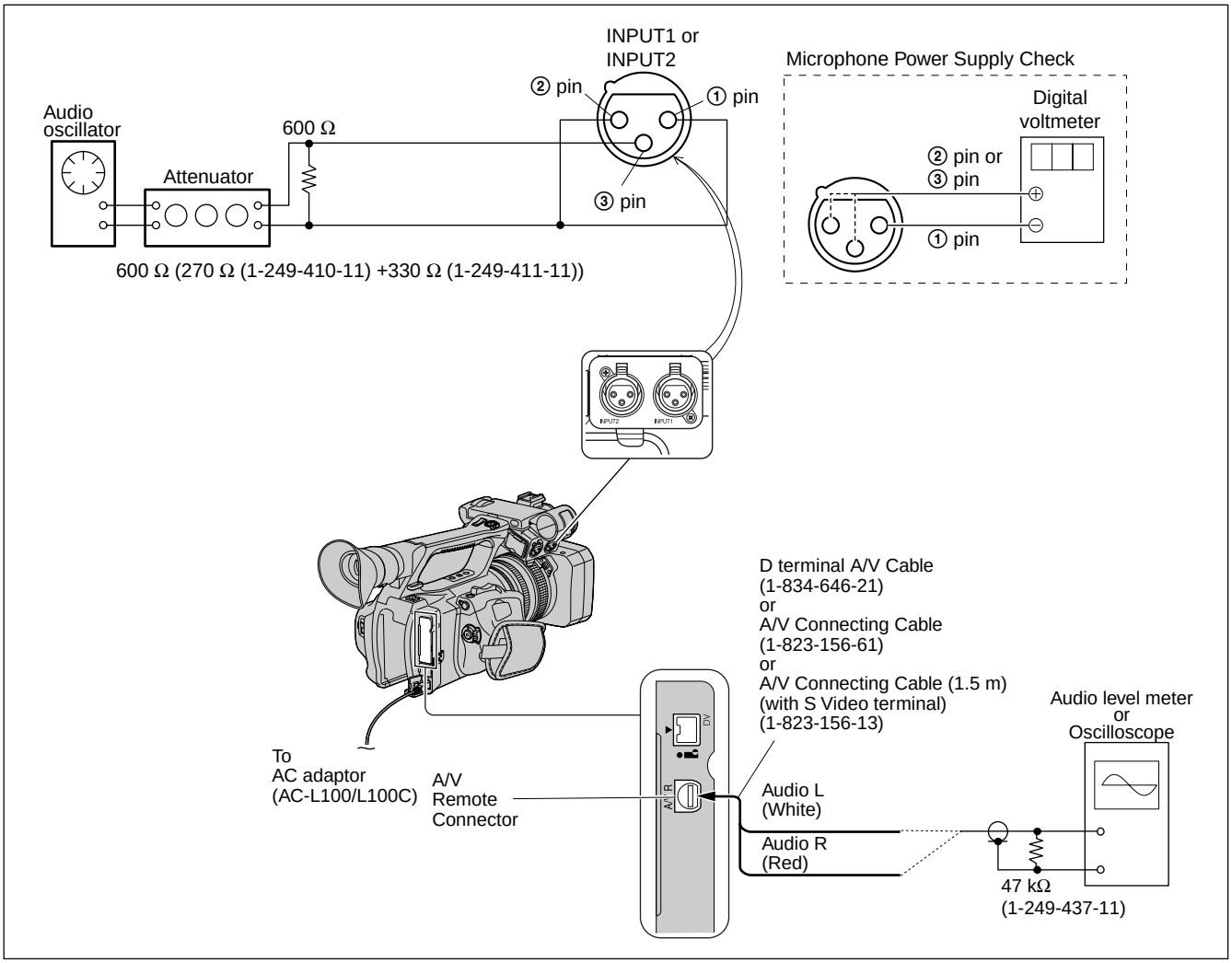


Fig. 6-3-9

1. Signal Output Check

Mode	VCR mode (PANEL open)
Signal	Test tone generation (1kHz, 0 dB)
Measurement Point	Audio L and R terminal of A/V Remote Connector
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	LINE OUT: +8 dBs ±1 dB (Note 2)

Note 1: 0 dBs = 0.775 Vrms

Note 2: The level difference between Lch and Rch must be within ± 0.5dB.

Checking method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 0, address: 10, and set data: 01.
3) Select page: 8 (18) , address: 5C, and set data: 05.
4) Check that the sound is output from the speaker.
5) Check that the sound from the speaker is interrupted when the LCD panel is closed.
6) Check that the sound from the speaker is interrupted when the plug is inserted in the headphone jack, and also that the sounds are output from the left and right sides of headphone.
7) Select page: 0, address: 10, and set data: 00.
8) Select page: 2, address: EA, and check the following bit value.
   If bit value of bit 1 is 1: NTSC model
   If bit value of bit 1 is 0: PAL model
9) Check that the Lch and Rch output level of A/V Remote Connector is within the specified value.
10) Check the Rch output level against the Lch output level is satisfied the specified value.
11) Select page: 0, address: 10, and set data: 01.
12) Select page: 8 (18), address: 5C, and set data: 00
13) Select page: 0, address: 10, and set data: 00
14) Select page: 0, address: 01, and set data: 00.

2. INPUT1 LINE Check

Mode	CAMERA mode
Signal	1 kHz, 0 dBu signal: XLR terminal (INPUT1)
Measurement Point	Audio L terminal of A/V Remote Connector
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–14 dBs ± 4 dB

Note 1: 0 dBu = 0.775 Vrms/balance

Note 2: 0 dBs = 0.775 Vrms

Switch setting

1) INPUT SELECT (CH1) switch INPUT1
2) INPUT SELECT (CH2) switch INPUT2
3) INPUT1 switch ..... LINE

Checking method:

1) Input 1 kHz, 0 dBu signal in the XLR terminal (INPUT1).
2) Check that the 1 kHz signal level is the specified value.
3) Take a note of the Lch level.

3. INPUT2 LINE Check

Mode	CAMERA mode
Signal	1 kHz, 0 dBu signal: XLR terminal (INPUT2)
Measurement Point	Audio R terminal of A/V Remote Connector
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–14 dBs ± 4 dB (Note 3)

Note 1: 0 dBu = 0.775 Vrms/balance

Note 2: 0 dBs = 0.775 Vrms

Note 3: The level difference between Lch and Rch must be within ± 1dB.

Switch setting

1) INPUT SELECT (CH1) switch INPUT1
2) INPUT SELECT (CH2) switch INPUT2
3) INPUT2 switch ..... LINE

Checking method:

1) Input 1 kHz, 0 dBu signal in the XLR terminal (INPUT2).
2) Check that the 1 kHz signal level is the specified value.
3) Check the Rch output level against the Lch output level taken in the item “2. INPUT1 LINE Check” is satisfied the specified value.

4. INPUT1 MIC Check

Mode	CAMERA mode
Signal	1 kHz, –50 dBu signal: XLR terminal (INPUT1)
Measurement Point	Audio L terminal of A/V Remote Connector
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs ± 2 dB

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Switch setting
1) INPUT SELECT (CH1) switch INPUT1
2) INPUT SELECT (CH2) switch INPUT2
3) INPUT1 switch ..... MIC

Checking method:
1) Input 1 kHz, –50 dBu signal in the XLR terminal (INPUT1).
2) Check that the 1 kHz signal level is the specified value.
3) Take a note of the Lch level.

5. INPUT2 MIC Check

Mode	CAMERA mode
Signal	1 kHz, –50 dBu signal: XLR terminal (INPUT2)
Measurement Point	Audio R terminal of A/V Remote Connector
Measuring Instrument	Audio level meter, Oscilloscope
Specified value	–12 dBs ± 2 dB (Note 3)

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms
Note 3: The level difference between Lch and Rch must be within ± 1dB.

Switch setting
1) INPUT SELECT (CH1) switch INPUT1
2) INPUT SELECT (CH2) switch INPUT2
3) INPUT2 switch ..... MIC

Checking method:
1) Input 1 kHz, –50 dBu signal in the XLR terminal (INPUT2).
2) Check that the 1 kHz signal level is the specified value.
3) Check the Rch output level against the Lch output level taken in the item “4. INPUT1 MIC Check” is satisfied the specified value.

6. INPUT1 MIC ATT Check

Mode	CAMERA mode
Signal	1 kHz, –50 dBu signal: XLR terminal (INPUT1)
Measurement Point	Audio L terminal of A/V Remote Connector
Measuring Instrument	Audio level meter
Specified value (INPUT1 TRIM: –6 dB)	–18 dBs ± 2 dB

Switch setting
1) INPUT SELECT (CH1) switch INPUT1
2) INPUT SELECT (CH2) switch INPUT2
3) INPUT1 switch ..... MIC
4) AUTO/MAN switch (CH1) ..... AUTO

Checking method:
1) Input 1 kHz, –50 dBu signal in the XLR terminal (INPUT1).
2) Set the INPUT1 TRIM (AUDIO SET menu: XLR SET) to “–6dB”.
3) Check that the 1 kHz signal level is the specified value.
4) Set the INPUT1 TRIM (AUDIO SET menu: XLR SET) to “0dB”.
5) Take a note of the Lch level.

7. INPUT2 MIC ATT Check

Mode	CAMERA mode
Signal	1 kHz, –50 dBu signal: XLR terminal (INPUT2)
Measurement Point	Audio R terminal of A/V Remote Connector
Measuring Instrument	Audio level meter
Specified value (INPUT2 TRIM: –6 dB)	–18 dBs ± 2 dB (Note 3)

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Switch setting
1) INPUT SELECT (CH1) switch INPUT1
2) INPUT SELECT (CH2) switch INPUT2
3) INPUT2 switch ..... MIC
4) AUTO/MAN switch (CH2) ..... AUTO

Checking method:
1) Input 1 kHz, –50 dBu signal in the XLR terminal (INPUT2).
2) Set the INPUT2 TRIM (AUDIO SET menu: XLR SET) to “–6dB”.
3) Check that the 1 kHz signal level is the specified value.
4) Set the INPUT2 TRIM (AUDIO SET menu: XLR SET) to “0dB”.

8. Audio Level Control Check

Mode	CAMERA mode
Signal	1 kHz, –50 dBu signal: XLR terminal (INPUT1, 2)
Measurement Point	Audio L and R terminal of A/V Remote Connector
Measuring Instrument	Oscilloscope

Note 1: 0 dBu = 0.775 Vrms/balance

Switch setting

1) INPUT1 switch ..... MIC
2) INPUT2 switch ..... MIC
3) AUTO/MAN switch (CH1) ..... MAN
4) AUTO/MAN switch (CH2) ..... MAN

Checking method:

1) Input 1 kHz, –50 dBu signal in the XLR terminal (INPUT1, 2).
2) Press the STATUS CHECK button to display the Audio Information screen.
3) Rotating the CH1 AUDIO LEVEL control, check that Lch waveform level of A/V Remote Connector varies.
4) Rotating the CH2 AUDIO LEVEL control, check that Rch waveform level of A/V Remote Connector varies.

Note 2: Along with the waveform check with the oscilloscope, check that the level meter on the STATUS CHECK screen varies.

9. INPUT SELECT Check

Mode	CAMERA mode
Signal	1 kHz, –50 dBu signal: XLR terminal (INPUT1) 100 Hz, –50 dBu signal: XLR terminal (INPUT2)
Measurement Point	Audio L and R terminal of A/V Remote Connector
Measuring Instrument	Oscilloscope
Specified value (INPUT SELECT (CH2): INPUT2)	Audio L: 1 kHz signal Audio R: 100 Hz signal
Specified value (INPUT SELECT: (CH2): INPUT1)	Audio L: 1 kHz signal Audio R: 1 kHz signal

Note: 0 dBu = 0.775 Vrms/balance

Switch setting

1) INPUT1 switch ..... MIC
2) INPUT2 switch ..... MIC
3) AUTO/MAN switch (CH1) ..... AUTO
4) AUTO/MAN switch (CH2) ..... AUTO
5) INPUT SELECT (CH1) switch INPUT1

Checking method:

1) Input 1 kHz, –50 dBu signal in the XLR terminal (INPUT1).
2) Input 100 Hz, –50 dBu signal in the XLR terminal (INPUT2).
3) Set the INPUT SELECT (CH2) switch to “INPUT2”.
4) Check that the 1 kHz signal is output from the audio L terminal.
5) Check that the 100 Hz signal is output from the audio R terminal.
6) Set the INPUT SELECT (CH2) switch to “INPUT1”.
7) Check that the 1 kHz signal is output from the audio L terminal.
8) Check that the 1 kHz signal is output from the audio R terminal.

10. INPUT1 MIC WIND Filter Check

Mode	CAMERA mode
Signal	100 Hz, –50 dBu signal: XLR terminal (INPUT1)
Measurement Point	Audio L terminal of A/V Remote connector
Measuring Instrument	Audio level meter, Oscilloscope
Specified value (INPUT1 WIND OFF)	–13 dBs ± 2 dB
Specified value (INPUT1 WIND ON)	–23 dBs ± 5 dB
Specified value (INPUT1 WIND ON /OFF difference)	–10 dB ± 3 dB

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Switch setting
1) INPUT SELECT (CH1) switch INPUT1
2) INPUT SELECT (CH2) switch INPUT2
3) INPUT1 switch ..... MIC

Checking method:
1) Set the INPUT1 WIND (AUDIO SET menu: XLR SET) to "OFF".
2) Input 100 Hz, –50 dBu signal in the XLR terminal (INPUT1).
3) Check that the 100 Hz signal level is the specified value.
4) Set the INPUT1 WIND (AUDIO SET menu: XLR SET) to "ON".
5) Check that the 100 Hz signal level is the specified value.
6) Check the level difference between INPUT1 WIND ON and OFF is satisfied the specified value.
7) Set the INPUT1 WIND (AUDIO SET menu: XLR SET) to "OFF".

11. INPUT2 MIC WIND Filter Check

Mode	CAMERA mode
Signal	100 Hz, –50 dBu signal: XLR terminal (INPUT2)
Measurement Point	Audio R terminal of A/V Remote connector
Measuring Instrument	Audio level meter, Oscilloscope
Specified value (INPUT2 WIND OFF)	–13 dBs ± 2 dB
Specified value (INPUT2 WIND ON)	–23 dBs ± 5 dB
Specified value (INPUT2 WIND ON /OFF difference)	–10 dB ± 3 dB

Note 1: 0 dBu = 0.775 Vrms/balance
Note 2: 0 dBs = 0.775 Vrms

Switch setting
1) INPUT SELECT (CH1) switch INPUT1
2) INPUT SELECT (CH2) switch INPUT2
3) INPUT2 switch ..... MIC

Checking method:
1) Set the INPUT2 WIND (AUDIO SET menu: XLR SET) to "OFF".
2) Input 100 Hz, –50 dBu signal in the XLR terminal (INPUT2).
3) Check that the 100 Hz signal level is the specified value.
4) Set the INPUT2 WIND (AUDIO SET menu: XLR SET) to "ON".
5) Check that the 100 Hz signal level is the specified value.
6) Check the level difference between INPUT2 WIND ON and OFF is satisfied the specified value.
7) Set the INPUT2 WIND (AUDIO SET menu: XLR SET) to "OFF".

12. Microphone Power Supply Check

Mode	CAMERA mode
Signal	No signal
Measurement Point	XLR terminal (INPUT1, INPUT2) + probe: pin ②, ③ – probe: pin ①
Measuring Instrument	Digital voltmeter
Specified value	A = 1 V or less B = 46.0 ± 3.0 V

Checking method:
1) Connect the + probe of digital voltmeter to the pin ② on the INPUT1.
2) Check that the DC voltage (A) satisfies the specified value.
3) Connect the + probe of digital voltmeter to the pin ③ on the INPUT1.
4) Check that the DC voltage (A) satisfies the specified value.
5) Set the +48V switch (INPUT1) to "MIC+48 V".
6) Connect the + probe of digital voltmeter to the pin ② on the INPUT1.
7) Check that the DC voltage (B) satisfies the specified value.
8) Connect the + probe of digital voltmeter to the pin ③ on the INPUT1.
9) Check that the DC voltage (B) satisfies the specified value.
10) Set the +48V switch (INPUT1) to "LINE".
11) For the INPUT2, perform checking in the same manner.

6-4. SERVICE MODE

4-1. ADJUSTMENT REMOTE COMMANDER (RM-95)

The adjustment remote commander (RM-95) is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander (RM-95) performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the Adjustment Remote Commander (RM-95)

1) Connect the adjustment remote commander to the LANC terminal.
2) Set the HOLD switch of the adjustment remote commander (RM-95) to "HOLD" (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander (RM-95) will display as shown in Fig. 6-4-1.

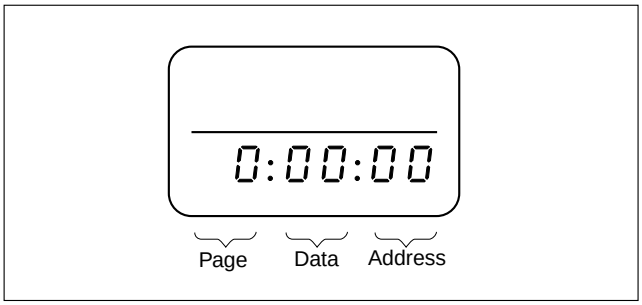


Fig. 6-4-1

3) Operate the adjustment remote commander (RM-95) as follows.
   - Changing the page
     The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH– button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0 1 2 3 4 5 6 7 8 9 A B C D E F
LCD Display	0 1 2 3 4 5 6 7 8 9 A b c d E F
Decimal notation conversion value	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

   - Changing the address
     The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)
     The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data
     The PAUSE button must be pressed to write the adjustment data in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed)
4) After completing all adjustments, turn off the main power supply (8.4 V) once.

2. Precautions Upon Using the Adjustment Remote Commander (RM-95)

Mishandling of the adjustment remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

4-2. ADJUSTMENT REMOTE COMMANDER (NEW LANC JIG)

The adjustment remote commander (New LANC Jig) is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander (New LANC Jig) performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the Adjustment Remote Commander (New LANC Jig))

1) Connect the adjustment remote commander (New LANC Jig) to the LANC terminal via the LANC cable (J-6082-442-A).
2) Set the slide switch of the adjustment remote commander (New LANC Jig) to "SERVICE" (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander (New LANC Jig) will display as shown in Fig. 6-4-2.

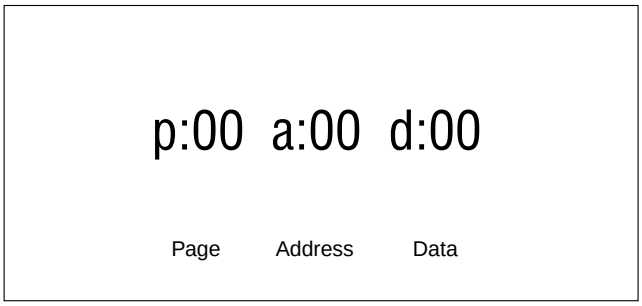


Fig. 6-4-2

3) Operate the adjustment remote commander (New LANC Jig) as follows.
   - Changing the page
     The page increases when the Page+ (▶▶) button is pressed, and decreases when the Page– (◀◀) button is pressed.
   - Changing the address
     The address increases when the ADD+ (▶) button is pressed, and decreases when the ADD– (▮▮) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)
     The data increases when the Data+ button is pressed, and decreases when the Data– button is pressed. There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data
     The Write (■) button must be pressed to write the adjustment data in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed)
4) After completing all adjustments, turn off the main power supply (8.4 V) once.

2. Precautions Upon Using the Adjustment Remote Commander (New LANC Jig)

Mishandling of the adjustment remote commander (New LANC Jig) may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

4-3. DATA PROCESS

The calculation of the DDS display and the adjustment remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Indicates the hexadecimal-decimal conversion table.

Hexadecimal-decimal Conversion Table

Upper digit of hexadecimal \ Lower digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	D (d)	E (E)	F (F)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
① B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

② (above the D (d) column)

Note: The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.

(Example) If the DDS display or the adjustment remote commander shows BD (bd);
Because the upper digit of the adjustment number is B (b), and the lower digit is D (d), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

Table 6-4-1

4-4. SERVICE MODE

Note: Before performing the adjustment, check the data of page: 0, address: 10 is “00”. If not, select page: 0, address: 00, and set data “00”.

1. Setting the Test Mode

Page A	Address 10

Data	Function
00	Normal
01	Forced camera power ON (CAMERA mode)
02	Forced VTR power ON (VCR mode)
03	Forced camera + VTR power ON

- Before setting the data , select page: 0, address: 01, and set data: 01.
- For page A, the data set will be recorded in the non-volatile memory by pressing the PAUSE (Write) button of the adjustment remote commander. In this case, take note that the test mode will not be exited even when the main power is turned off (8.4 Vdc).
- After completing adjustments/repairs, be sure to return the data of this address to 00, and press the PAUSE (Write) button of the adjustment remote commander. And select page: 0, address: 01, and set data: 00.

2. Emergence Memory Address

2-1. Emergence Memory Address (Mechanism section)

Page C	Address F4 to FF

Address	Contents
F4	EMG code when first error occurs
F6	Upper: MSW code when shift starts when first error occurs Lower: MSW code when first error occurs
F7	Lower: MSW code to be moved when first error occurs
F8	EMG code when second error occurs
FA	Upper: MSW code when shift starts when second error occurs Lower: MSW code when second error occurs
FB	Lower: MSW code to be moved when second error occurs
FC	EMG code when last error occurs
FE	Upper: MSW code when shift starts when last error occurs Lower: MSW code when last error occurs
FF	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data “00” is written in the above addresses (F4 to FF). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (F4 to F7). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (F8 to FB).
Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (FC to FF).

Note: After completing adjustments, be sure to initialize the data of addresses F4 to FF to “00”.

Initializing method:

Order	Page	Address	Data	Procedure
1	0	01	01	
2	3	71	01	Press PAUSE (Write) button.
3	3	03	FF	Press PAUSE (Write) button.
4	3	01	37	Press PAUSE (Write) button.
5	3	02		Check the data changes to “00”.
6	3	03		Check the data changes to “00”.
7	3	70	10	Press PAUSE (Write) button.
8	3	70		Check the data changes to “11”.
9	0	01	01	

2-2. EMG Code (Emergency Code)

Codes corresponding to the errors which occur are written in C page, addresses F4, F8 and FC . The type of error indicated by the code are shown in the following table.

Code	Emergency Type
00	No error
10	Loading motor emergency during loading
11	Loading motor emergency during unloading
22	T reel emergency during normal rotation
23	S reel emergency during normal rotation
24	T reel emergency (Short circuit between S reel terminal and T reel terminal)
30	FG emergency at the start up of the capstan
40	FG emergency at the start up of the drum
42	FG emergency during normal rotation of the drum

2-3. MSW Code

MSW when errors occur:

Information on MSW (mode SW) when errors occur

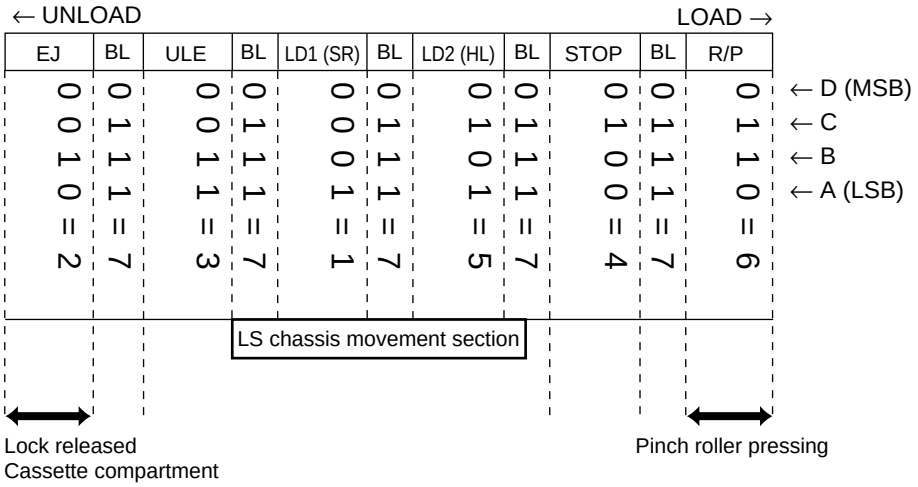
MSW when movement starts:

Information on MSW when movements starts when the mechanism position is moved (When the L motor is moved)

MSW of target of movement:

Information on target MSW of movement when the mechanism position is moved

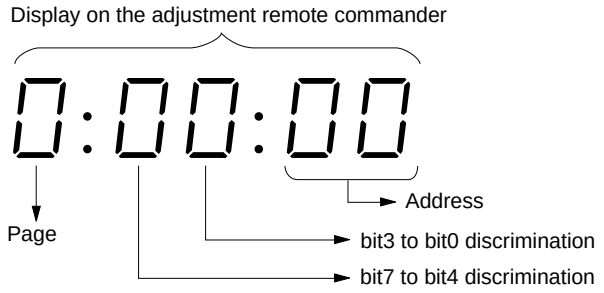
Mechanical Position



Position	Code	Contents
EJ	2	Position at which the cassette component lock is released, at the farthest unload side mechanically at which the mechanism can move no further in the UNLOAD direction.
BL	7	BLANK code, at the boundary between codes.
ULE	3	EJECT completion position. when the cassette is ejected, the mechanism will stop at this position. Cassette IN standby. The guide will start protruding out as the mechanism moves towards the LOAD position.
LD1 (SR)	1	When preparing TOP load processing or when DEW is detected, rolling up tape by T reel is preformed at this position.
LD2 (HL)	5	When preparing TOP load processing or when DEW is detected, rolling up tape by S reel is preformed at this position.
STOP	4	Stop position in the loading state. The pinch roller separates, the tension regulator returns, and the brake is imposed on both reels.
R/P	6	PB, REC, CUE, REVIEW, PAUSE, FF, REW positions. When pinch roller is pressed, and the tension regulator is ON, the mechanism is operating at this position in modes in which normal images are shown.
NULL	0	Code not existing in the MD. Default value.
	F	Status before finding any mechanism position.

3. Bit Value Discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for the following items. Us the table below to discriminate if the bit value is "1" or "0".



(Example) If the remote commander display is "8E", bit value from bit 7 to bit 4 can be discriminated from the column Ⓐ, and those from bit 3 to bit 0 from column Ⓑ.

	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (A)	1	0	1	0
	B (b)	1	0	1	1
	C (C)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

4. Jack Check

Page 7	Address FF

Bit	Function	When bit value = 1	When bit value = 0
2	A/V Remote Connector (JK-376 board CN9508)	Used (Component A/V)	Not used
3	A/V Remote Connector (JK-376 board CN9508)	Used (Composite A/V multi)	Not used

Using method:

1) Select page: 7, address: FF.
2) By discriminating the bit value of display data, the state of jack can be discriminated.

5. Switch Check (1)

Page 7	Address 4D, 4E

Address	Bit	Function	When bit value = 1	When bit value = 0
4D	7	AUDIO LEVEL AUTO/MANUAL (CH1) (Control switch block (AU93000) S005)	AUTO	MANUAL
4E	0	AUDIO LEVEL AUTO/MANUAL (CH2) (Control switch block (AU93000) S006)	AUTO	MANUAL

Using method:

1) Select page: 7, address: 4D, 4E.
2) By discriminating the bit value of display data, the state of jack can be discriminated.

6. Switch Check (2)

Page 7	Address 50

Function	S007	S008	bit value		
	CH1	CH2	bit 7	bit 6	bit 1
AUDIO INPUT SELECT (Control switch block (AU93000)) S007: CH1 S008: CH2	INPUT1	INPUT2	0	0	1
	–	INPUT1	–	1	1
	INT MIC	INT MIC	1	1	0

Using method:

1) Select page: 7, address: 50.
2) By discriminating the bit value of display data, the state of jack can be discriminated.

7. Switch Check (3)

Page 2	Address EC

Bit	Function	When bit value = 1	When bit value = 0
0	POWER-VCR (Control switch block (PS24000))	ON	OFF
1	POWER-CAMERA (Control switch block (PS24000))	ON	OFF
2	EJECT (FP-969 flexible S101)	ON	OFF
4	DISPLAY/BATT INFO (KY-105 board S7206)	ON	OFF

Using method:

1) Select page: 2, address: EC.
2) By discriminating the bit value of display data, the state of switch can be discriminated.

8. Switch Check (4)

Page 7	Address 63 to 6B

Note: Check that the data of page: 0, address: 10 is “00”.

Using method:

1) Select page: 7, address: 63 to 6B.
2) By discriminating the display data, the pressed key can be discriminated.

Address	Data							
	00	1B	36	53	77	A0	CF	FF
	00 to 0C	0D to 26	27 to 43	44 to 63	64 to 8A	8B toB6	B7 to E6	E7 to FF
65 (KEY AD0) (VC-597) (IC3601 C5)	REC START/STOP (CONTROL SWITCH BLOCK (PS24000) (S301))	–	–	–	–	–	–	–
66 (KEY AD1) (VC-597) (IC3601 B3)	STOP (KY-105) (S7201)	REW (KY-105) (S7204)	REC (KY-105) (S7209, S7211)	PLAY (KY-105) (S7214)	FF (KY-105) (S7216)	SLOW (KY-105) (S7217)	–	–
67 (KEY AD2) (VC-597) (IC3601 B4)	REC START/STOP (CONTROL SWITCH BLOCK (GZ92000) (S001))	–	–	–	–	–	–	–
68 (KEY AD3) (VC-597) (IC3601 D2)	MEMORY (VCR) PLAY (KY-105) (S7202)	MEMORY (VCR) INDEX (KY-105) (S7205)	MEMORY (VCR) DELETE (KY-105) (S7210)	PAUSE (KY-105) (S7213)	–	–	PANEL REVERSE (FP-966 FLEXIBLE) (IC402) (HT-002) (S7401)	PANEL NORMAL (FP-966 FLEXIBLE) (IC402) (HT-002) (S7401)
69 (KEY AD4) (VC-597) (IC3601 E2)	PHOTO/ ASSIGN 7 (CONTROL SWITCH BLOCK (PZ93000) (S501))	–	VOLUME/ MEMORY + (KY-105) (S7203)	VOLUME/ MEMORY – (KY-105) (S7208)	DATA CODE (KY-105) (S7212)	TC/U-BIT (KY-105) (S7215)	PANEL CLOSE (FP-966 FLEXIBLE) (IC403)	PANEL OPEN (FP-966 FLEXIBLE) (IC403)
6A (KEY AD5) (VC-597) (IC3601 E1)	PICTURE PROFILE (CONTROL SWITCH BLOCK (KP24000) (S302))	STATUS CHECK (CONTROL SWITCH BLOCK (KP24000) (S303))	■ (CONTROL SWITCH BLOCK (CF24000) (S207))	IRIS/ EXPOSURE (CONTROL SWITCH BLOCK (CF24000) (S204))	GAIN (CONTROL SWITCH BLOCK (CF24000) (S201))	GAIN H (CONTROL SWITCH BLOCK (CF24000) (S205))	GAIN L (CONTROL SWITCH BLOCK (CF24000) (S205))	GAIN M (CONTROL SWITCH BLOCK (CF24000) (S205))
6B (KEY AD6) (VC-597) (IC3601 C2)	ASSIGN 4 (AS-060) (S8801)	ASSIGN 5 (AS-060) (S8802)	ASSIGN 6 (AS-060) (S8803)	WHT BAL (CONTROL SWITCH BLOCK (CF24000) (S202))	SHUTTER SPEED (CONTROL SWITCH BLOCK (CF24000) (S203))	WHT BAL PRS (CONTROL SWITCH BLOCK (CF24000) (S206))	WHT BAL B (CONTROL SWITCH BLOCK (CF24000) (S206))	WHT BAL A (CONTROL SWITCH BLOCK (CF24000) (S206))
63 (KEY AD7) (VC-597) (IC3601 B5)	SEL/PUSH EXEC (CONTROL SWITCH BLOCK (KP24000) (S304))	MENU (CONTROL SWITCH BLOCK (KP24000) (S301))	–	–	–	–	AUTO LOCK: AUTO (CONTROL SWITCH BLOCK (CF24000) (S208))	AUTO LOCK: MANUAL (CONTROL SWITCH BLOCK (CF24000) (S208))
64 (KEY AD8) (VC-597) (IC3601 A3)	ASSIGN 1 (CONTROL SWITCH BLOCK (AU93000) (S001))	ASSIGN 2 (CONTROL SWITCH BLOCK (AU93000) (S002))	ASSIGN 3 (CONTROL SWITCH BLOCK (AU93000) (S003))	PUSH AUTO FOCUS (CONTROL SWITCH BLOCK (AU93000) (S004))	–	FOCUS AUTO (CONTROL SWITCH BLOCK (AU93000) (S009))	FOCUS INFINITY (CONTROL SWITCH BLOCK (AU93000) (S009))	FOCUS MAN (CONTROL SWITCH BLOCK (AU93000) (S009))

9. Switch Check (5)

Page 6	Address 6A

Note: Check that the data of page: 0, address: 10 is “00”.

Using method 1:
1) Select page: 6, address: 69, and set data: 01.
2) Select page: 6, address: 6A.
3) By discriminating the display data, the pressed key can be discriminated.

Address	Data							
	00	1B	36	53	77	A0	CF	FF
	00 to 0C	0D to 27	32 to 3A	4F to 58	73 to 7B	8B to B7	B8 to E6	E7 to FF
6A (BODY AD) (VC-597) (IC4201 ⑳)	–	–	–	–	–	HANDLE ZOOM OFF (GP-025) (S7801)	HANDLE ZOOM FIX (GP-025) (S7801)	HANDLE ZOOM VAR (GP-025) (S7801)

4) Select page: 6, address: 69, and set data: 00

10. LED Check

Page 7	Address 00, 01, 02 and 04

Note: Check that the data of page: 0, address: 10 is “00”.

Using method:

Order	Page	Address	Data	Procedure
1				Set the unit to CAMERA mode.
2	7	01	90	
3	7	02	FF	
4	7	04	01	
5	7	00	01	Press PAUSE (Write) button.
6	7	02		Check the data changes to “01”.
7				Check that the following LED are lit. • Front recording lamp • Rear recording lamp • MS access lamp
8	7	01	90	
9	7	02	FF	
10	7	04	00	
11	7	00	01	Press PAUSE (Write) button.
12	7	02		Check the data changes to “01”.
13	7	00	00	
14	7	01	00	

11. Record of Use Check (1)

Page 7	Address A4 to AF

Note 1: This data will not be erased (reset) when the lithium 3 V power supply (PI-029 board BT7001) is removed.
Note 2: When the drum was replaced, initialize the drum rotation counted time.
Note 3: Check that the data of page: 0, address: 10 is "00".

Address	Function		Remarks
A4	Power supplying	Hour (H)	100000th place digit and 10000th place digit of counted time (decimal digit)
A5	time	Hour (M)	1000th place digit and 100th place digit of counted time (decimal digit)
A6		Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
A7	(BCD code)	Minute	
A8	Drum rotation	Hour (H)	100000th place digit and 10000th place digit of counted time (decimal digit)
A9	counted time	Hour (M)	1000th place digit and 100th place digit of counted time (decimal digit)
AA		Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
AB	(BCD code)	Minute	
AC	Tape run time	Hour (H)	100000th place digit and 10000th place digit of counted time (decimal digit)
AD		Hour (M)	1000th place digit and 100th place digit of counted time (decimal digit)
AE		Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
AF	(BCD code)	Minute	

Using method:
1) The record of use data is displayed at page: 7, addresses: A4 to AF.

Initializing method:

Order	Page	Address	Data	Procedure
1	7	A4	00	Press PAUSE (Write) button.
2	7	A5	00	Press PAUSE (Write) button.
3	7	A6	00	Press PAUSE (Write) button.
4	7	A7	00	Press PAUSE (Write) button.
5	7	A8	00	Press PAUSE (Write) button.
6	7	A9	00	Press PAUSE (Write) button.
7	7	AA	00	Press PAUSE (Write) button.
8	7	AB	00	Press PAUSE (Write) button.
9	7	AC	00	Press PAUSE (Write) button.
10	7	AD	00	Press PAUSE (Write) button.
11	7	AE	00	Press PAUSE (Write) button.
12	7	AF	00	Press PAUSE (Write) button.

12. Record of Use Check (2)

Page 7	Address 90 to 95

Note 1: This data will not be erased (reset) when the lithium 3 V power supply (PI-029 board BT7001) is removed.
Note 2: When the drum was replaced, initialize the drum rotation counted time.
Note 3: Check that the data of page: 0, address: 10 is "00".

Address	Function		Remarks
90	Eject count with tape	Count (H)	100000th place digit and 10000th place digit of Eject count (decimal digit)
91		Count (M)	1000th place digit and 100th place digit of Eject count (decimal digit)
92	(BCD code)	Count (L)	10th place digit and 1st place digit of Eject count (decimal digit)
93	Eject count without	Count (H)	100000th place digit and 10000th place digit of Eject count (decimal digit)
94	tape	Count (M)	1000th place digit and 100th place digit of Eject count (decimal digit)
95	(BCD code)	Count (L)	10th place digit and 1st place digit of Eject count (decimal digit)

Using method:
1) The record of use data is displayed at page: 7, addresses: 90 to 95.

Initializing method:

Order	Page	Address	Data	Procedure
1	7	90	00	Press PAUSE (Write) button.
2	7	91	00	Press PAUSE (Write) button.
3	7	92	00	Press PAUSE (Write) button.
4	7	93	00	Press PAUSE (Write) button.
5	7	94	00	Press PAUSE (Write) button.
6	7	95	00	Press PAUSE (Write) button.

13. Record of Use Check (3)

Page 7	Address C8 to CD

Note 1: This data will not be erased (reset) when the lithium 3 V power supply (PI-029 board BT7001) is removed.
Note 2: Check that the data of page: 0, address 10 is "00".

Address	Function		Remarks
C8	User initial power	Year	After setting the clock, set the date of power on next
C9	on date	Month	
CA	(BCD code)	Day	
CB	Final condensation	Year	
CC	occurrence date	Month	
CD	(BCD code)	Day	

Using method:
1) The record of use data is displayed at page: 7, addresses: C8 to CD.

14. Record of Self-diagnosis Check

Page 7	Address B0 to C6

Note 1: This data will not be erased (reset) when the lithium 3 V power supply (PI-029 board BT7001) is removed.
Note 2: Check that the data of page: 0, address 10 is “00”.

Address	Self-diagnosis code
B0	“Repaired by” code (Occurred 1st time) *1
B1	“Block function” code (Occurred 1st time)
B2	“Detailed” code (Occurred 1st time)
B4	“Repaired by” code (Occurred 2nd time) *1
B5	“Block function” code (Occurred 2nd time)
B6	“Detailed” code (Occurred 2nd time)
B8	“Repaired by” code (Occurred 3rd time) *1
B9	“Block function” code (Occurred 3rd time)
BA	“Detailed” code (Occurred 3rd time)
BC	“Repaired by” code (Occurred 4th time) *1
BD	“Block function” code (Occurred 4th time)
BE	“Detailed” code (Occurred 4th time)
C0	“Repaired by” code (Occurred 5th time) *1
C1	“Block function” code (Occurred 5th time)
C2	“Detailed” code (Occurred 5th time)
C4	“Repaired by” code (Occurred the last time) *1
C5	“Block function” code (Occurred the last time)
C6	“Detailed” code (Occurred the last time)

*1 : “01” → “C”, “03” → “E”

Using method:

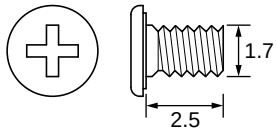
1) The past self-diagnosis codes are displayed at page: 7, address: BC to C6. Refer to “1-5. SELF-DIAGNOSIS FUNCTION” for detail of the self-diagnosis code.

Initializing method:

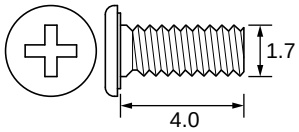
Order	Page	Address	Data	Procedure
1	7	01	C0	
2	7	00	01	Press PAUSE button.
3	7	B0 to C6		Check that the data is “00”.
4	7	00	00	
5	7	01	00	

HARDWARE LIST (1/9)

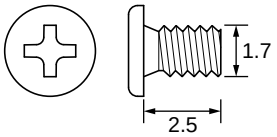
#1: M1.7 X 2.5
(Black)
2-635-562-11



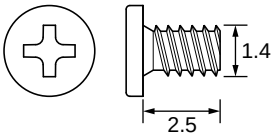
#2: M1.7 X 4.0
(Black)
2-635-562-31



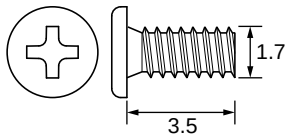
#3: M1.7 X 2.5
(Red)
2-660-401-01



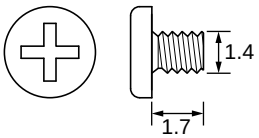
#4: M1.4 X 2.5 (Tapping)
(Dark Silver)
3-348-998-81



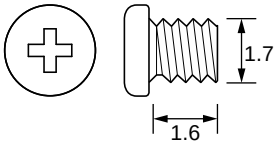
#5: M1.7 X 3.5 (Tapping)
(Black)
3-080-204-01



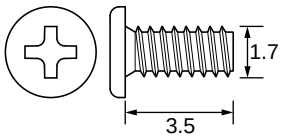
#6: M1.4 X 1.7
(Silver)
2-598-474-01



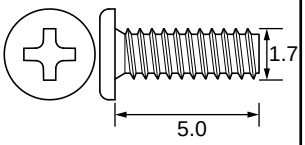
#7: M1.7 X 1.6
(Black)
7-627-552-18



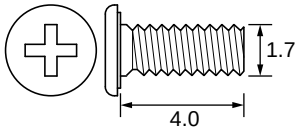
#8: M1.7 X 3.5 (Tapping)
(Silver)
3-078-890-01



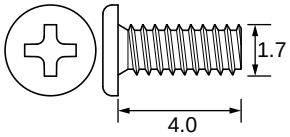
#9: M1.7 X 5.0 (Tapping)
(Silver)
3-078-890-21



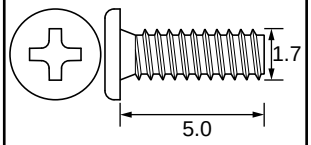
#10: M1.7 X 4.0
(Silver)
2-599-475-31



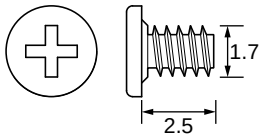
#11: M1.7 X 4.0 (Tapping)
(Silver)
3-078-890-11



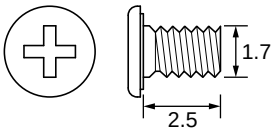
#12: M1.7 X 5.0 (Tapping)
(Black)
3-080-204-21



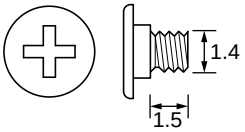
#13: M1.7 X 2.5 (Tapping)
(Silver)
3-085-397-01



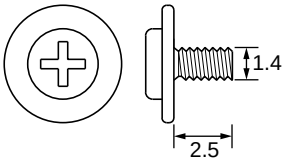
#14: M1.7 X 2.5
(Silver)
2-599-475-11



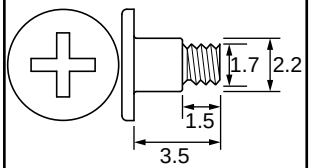
#15: M1.4 X 1.5
(Silver)
3-062-214-01



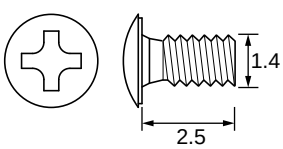
#16: M1.4 X 2.5
(Silver)
2-586-337-01



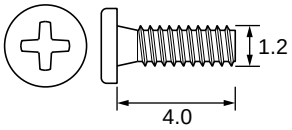
#17: M1.7 X 1.5
(Silver)
2-586-389-01



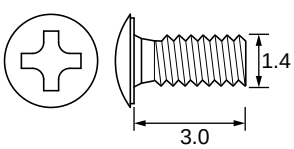
#18: M1.4 X 2.5
(Silver)
2-635-591-21



#19: M1.2 X 4.0 (Tapping)
(Red)
3-086-156-21

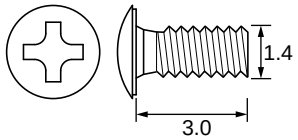


#20: M1.4 X 3.0
(Silver)
2-635-591-31

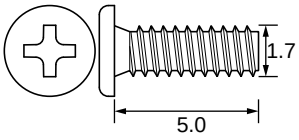


HARDWARE LIST (2/9)

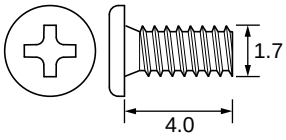
#21: M1.4 X 3.0
(Black)
2-662-396-21



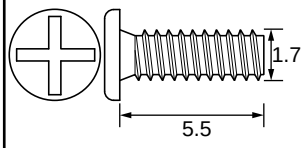
#22: M1.7 X 5.0 (Tapping)
(Silver)
3-083-261-01



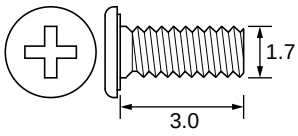
#23: M1.7 X 4.0 (Tapping)
(Black)
3-080-204-11



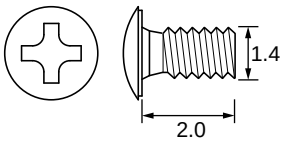
#24: B1.7 X 5.5 (Tapping)
(Black)
4-679-805-11



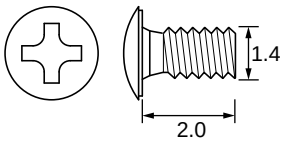
#25: M1.7 X 3.0
(Black)
2-635-562-21



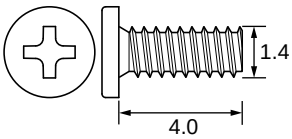
#26: M1.4 X 2.0
(Silver)
2-635-591-11



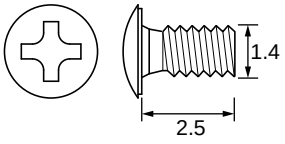
#27: M1.4 X 2.0
(Black)
2-662-396-11



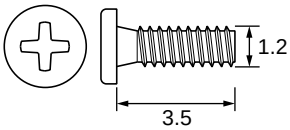
#28: M1.4 X 4.0 (Tapping)
(Silver)
3-348-998-61



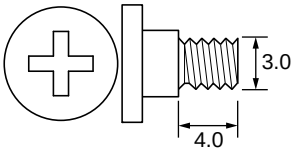
#29: M1.4 X 2.5
(Black)
2-662-396-01



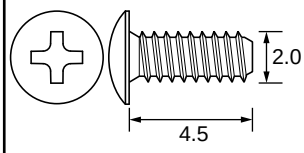
#30: M1.2 X 3.5 (Tapping)
(White)
3-086-156-11



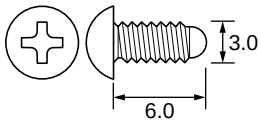
#31: M3.0 X 4.0
(Silver)
2-102-434-01



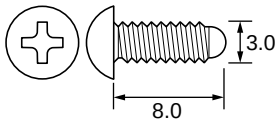
#32: M2.0 X 4.5 (Tapping)
(Silver)
2-102-498-01



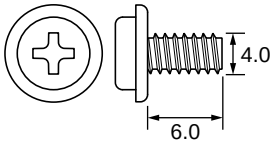
#33: M3.0 X 6.0
(Silver)
3-077-331-21



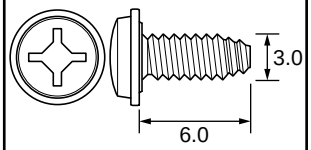
#34: M3.0 X 8.0
(Black)
3-077-331-41



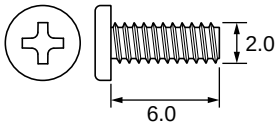
#35: M4.0 X 6.0 (Tapping)
(Silver)
3-975-291-02



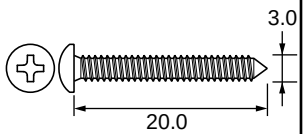
#36: M3.0 X 6.0
(Silver)
4-886-821-11



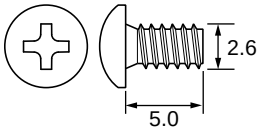
#37: M2.0 X 6.0 (Tapping)
(Black)
3-080-206-31



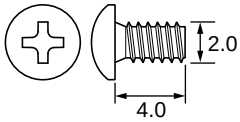
#38: M3.0 X 20.0 (Tapping)
(Silver)
7-685-651-79



#39: M2.6 X 5.0 (Tapping)
(Black)
7-685-791-09

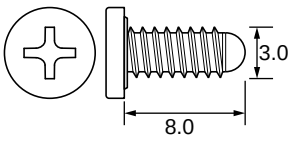


#40: M2.0 X 4.0 (Tapping)
(Silver)
7-685-851-04

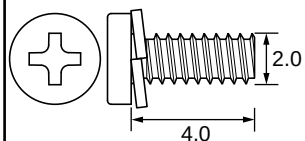


HARDWARE LIST (3/9)

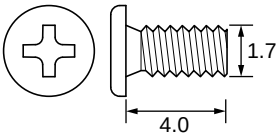
#41: M3.0 X 8.0 (Tapping)
(Silver)
3-065-748-01



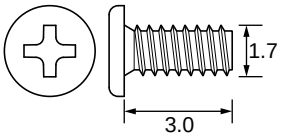
#42: M2.0 X 4.0 (Tapping)
(Silver)
7-628-253-00



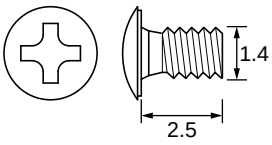
#43: M1.7 X 4.0
(Red)
2-660-401-31



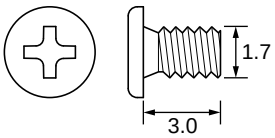
#44: M1.7 X 3.0 (Tapping)
(Silver)
3-078-890-61



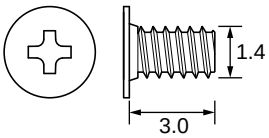
#45: M1.4 X 2.5
(Silver)
2-587-151-01



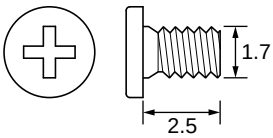
#46: M1.7 X 3.0
(Red)
2-660-401-11



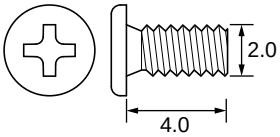
#47: M1.4 X 3.0 (Tapping)
(Silver)
2-665-774-01



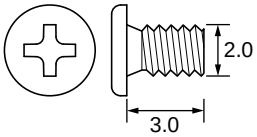
#48: M1.7 X 2.5
(Silver)
3-973-497-91



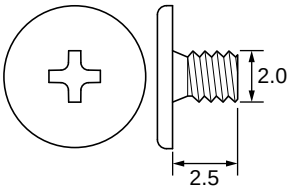
#49: M2.0 X 4.0
(Black)
2-630-005-31



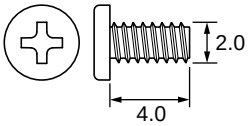
#50: M2.0 X 3.0
(Red)
2-891-494-11



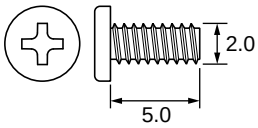
#51: M2.0 X 2.5
(Silver)
3-073-686-01



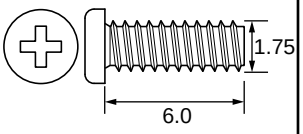
#52: M2.0 X 4.0 (Tapping)
(Black)
3-080-206-11



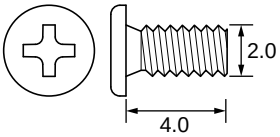
#53: M2.0 X 5.0 (Tapping)
(Black)
3-080-206-21



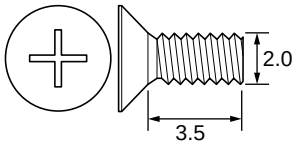
#54: M1.75 X 6.0 (Tapping)
(Black)
3-318-203-11



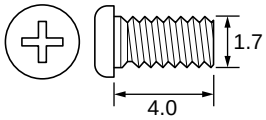
#55: M2.0 X 4.0
(Silver)
2-655-582-11



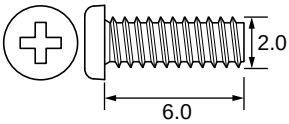
#56: M2.0 X 3.5
(Silver)
3-067-187-11



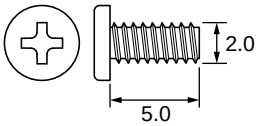
#57: M1.7 X 4.0
(Black)
7-627-852-18



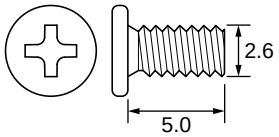
#58: M2.0 X 6.0 (Tapping)
(Silver)
3-719-408-11



#59: M2.0 X 5.0 (Tapping)
(Silver)
3-080-205-21

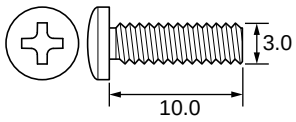


#60: M2.6 X 5.0
(Black)
3-061-062-11

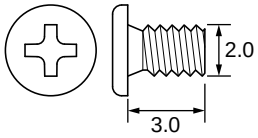


HARDWARE LIST (4/9)

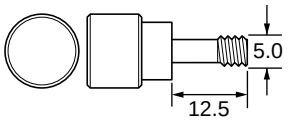
#61: M3.0 X 10.0
(Black)
7-682-549-09



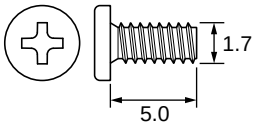
#62: M2.0 X 3.0
(Silver)
3-080-202-21



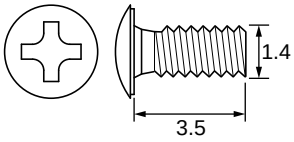
#63: M5.0 X 12.5
(Black)
3-060-811-21



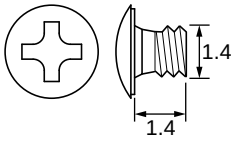
#64: M1.7 X 5.0 (Tapping)
(Silver)
2-666-551-21



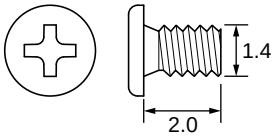
#65: M1.4 X 3.5
(Silver)
2-635-591-01



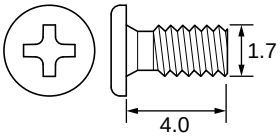
#66: M1.4 X 1.4
(Silver)
2-635-591-41



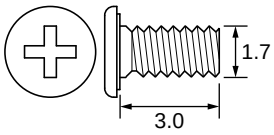
#67: M1.4 X 2.0
(Silver)
3-389-523-16



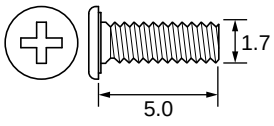
#68: M1.7 X 4.0
(Silver)
2-655-581-01



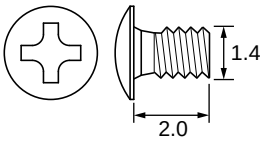
#69: M1.7 X 3.0
(Silver)
2-599-475-21



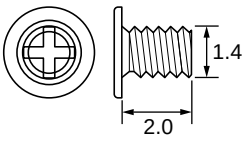
#70: M1.7 X 5.0
(Silver)
2-599-475-41



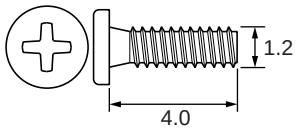
#71: M1.4 X 2.0
(Red)
3-208-537-01



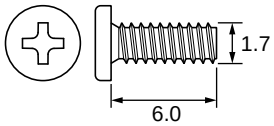
#72: M1.4 X 2.0
(Silver)
4-663-621-41



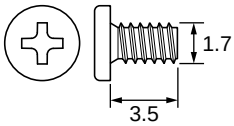
#73: M1.2 X 4.0 (Tapping)
(Black)
3-086-156-61



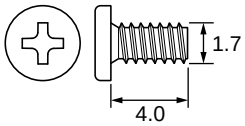
#74: M1.7 X 6.0 (Tapping)
(Silver)
2-666-551-31



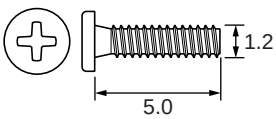
#75: M1.7 X 3.5 (Tapping)
(Silver)
2-666-551-01



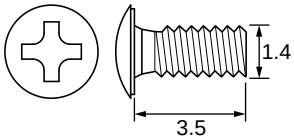
#76: M1.7 X 4.0 (Tapping)
(Silver)
2-666-551-11



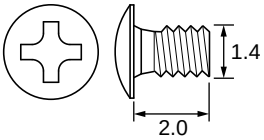
#77: M1.2 X 5.0 (Tapping)
(Silver)
3-086-156-31



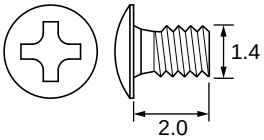
#78: M1.4 X 3.5
(Red)
3-208-537-11



#79: M1.4X 2.0
(Silver)
2-587-151-11

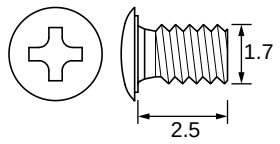


#80: M1.4X 2.0
(Black)
3-279-411-01

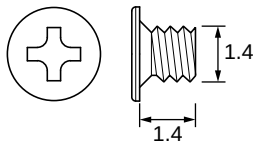


HARDWARE LIST (5/9)

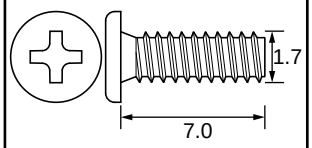
#81: M1.7 X 2.5
(Silver)
2-515-756-01



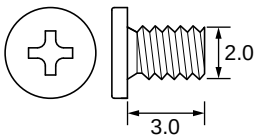
#82: M1.4 X 1.4
(Silver)
3-272-251-01



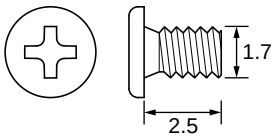
#83: M1.7 X 7.0 (Tapping)
(Black)
3-080-204-41



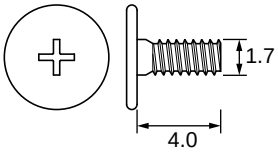
#84: M2.0 X 3.0
(Silver)
3-072-453-11



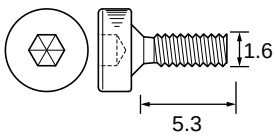
#85: M1.7 X 2.5
(Black)
2-515-483-11



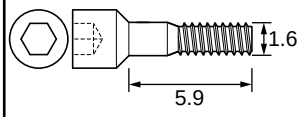
#86: M1.7 X 4.0 (Tapping)
(Silver)
2-695-434-21



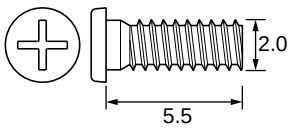
#87: M1.6 X 5.3
(Black)
2-689-328-01



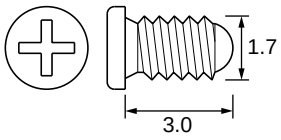
#88: M1.6 X 5.9 (Tapping)
(Silver)
2-689-015-01



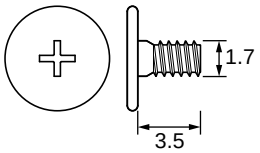
#89: M2.0 X 5.5 (Tapping)
(Silver)
2-695-575-01



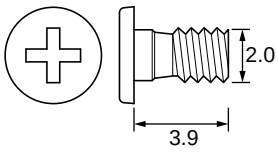
#90: M1.7 X 3.0
(Silver)
3-271-395-01



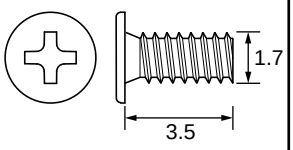
#91: M1.7 X 3.0 (Tapping)
(Silver)
2-695-434-11



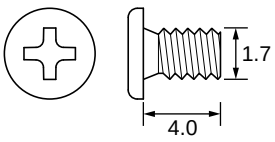
#92: M2.0 X 3.9
(Black)
3-268-954-01



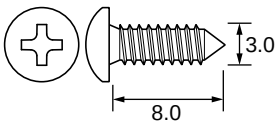
#93: M1.7 X 3.5 (Tapping)
(Silver)
3-254-082-01



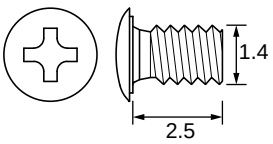
#94: M1.7 X 4.0
(Black)
2-515-483-31



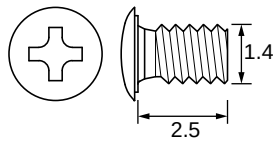
#95: M3.0 X 8.0 (Tapping)
(Black)
7-685-646-79



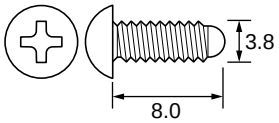
#96: M1.4 X 2.5
(Silver)
2-587-151-21



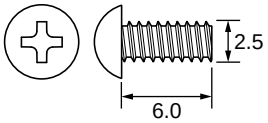
#97: M1.4 X 2.5
(Black)
2-662-396-31



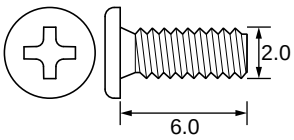
#98: M3.0 X 8.0
(Silver)
3-077-331-01



#99: M2.5 X 6.0 (Tapping)
(Silver)
3-776-750-02

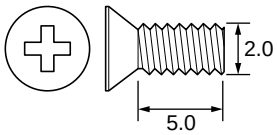


#100: M2.0 X 6.0
(Black)
3-080-203-51

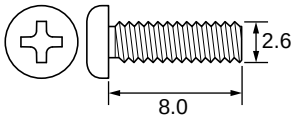


HARDWARE LIST (6/9)

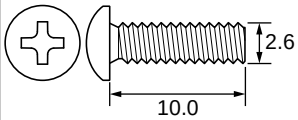
#101: M2.0 X 5.0
(Silver)
7-621-555-39



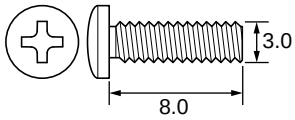
#102: M2.6 X 8.0
(Black)
7-621-284-30



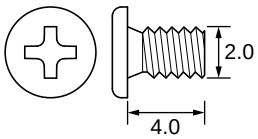
#103: M2.6 X 10.0
(Silver)
7-685-794-09



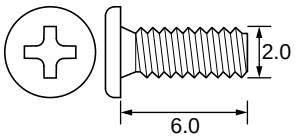
#104: M3.0 X 8.0
(Black)
7-682-548-09



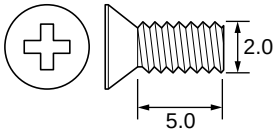
#105: M2.0 X 4.0
(Red)
2-891-494-31



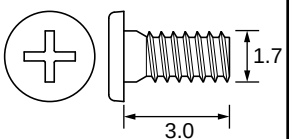
#106: M2.0 X 6.0
(Black)
3-713-786-11



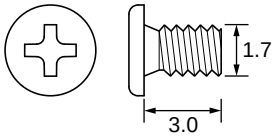
#107: M2.0 X 5.0
(Silver)
3-032-750-01



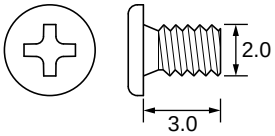
#108: M1.7 X 3.0 (Tapping)
(Black)
2-695-430-01



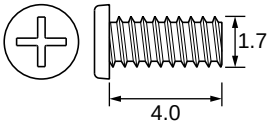
#109: M1.7 X 3.0
(Black)
2-515-483-21



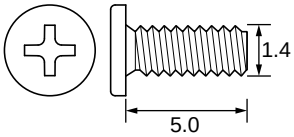
#110: M2.0 X 3.0
(Black)
2-630-005-21



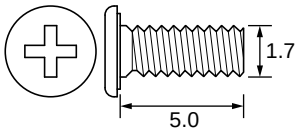
#111: M1.7 X 4.0 (Tapping)
(Black)
2-887-124-01



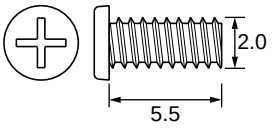
#112: M1.4 X 5.0
(Black)
2-178-410-11



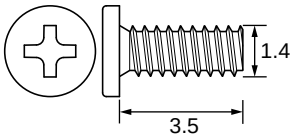
#113: M1.7 X 5.0
(Black)
2-635-562-41



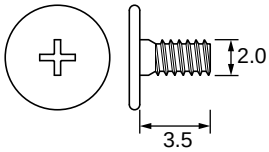
#114: M2.0 X 5.5 (Tapping)
(Silver)
2-698-464-01



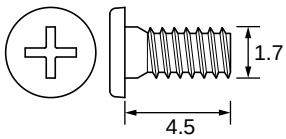
#115: M1.4 X 3.5 (Tapping)
(Silver)
3-348-998-51



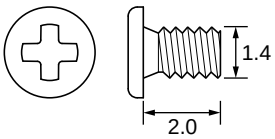
#116: M2.0 X 3.5 (Tapping)
(Silver)
2-695-435-01



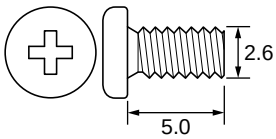
#117: M1.7 X 4.5 (Tapping)
(Silver)
2-695-429-31



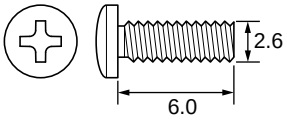
#118: M1.4 X 2.0
(Black)
2-655-580-01



#119: M2.6 X 5.0
(Black)
7-627-556-58

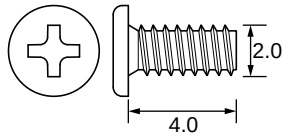


#120: M2.6 X 6.0
(Silver)
7-621-770-67

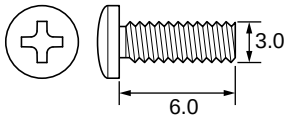


HARDWARE LIST (7/9)

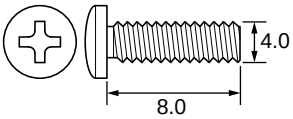
#121: M2.0 X 4.0 (Tapping)
(Silver)
3-080-205-11



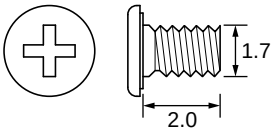
#122: M3.0 X 6.0
(Black)
7-682-547-09



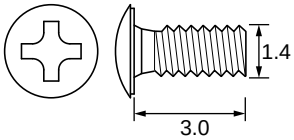
#123: M4.0 X 8.0
(Black)
7-682-561-09



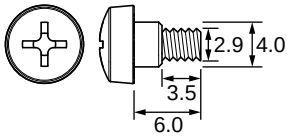
#124: M1.7 X 2.0
(Silver)
2-599-475-01



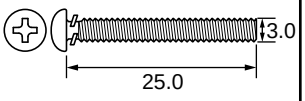
#125: M1.4 X 3.0
(Black)
3-291-847-01



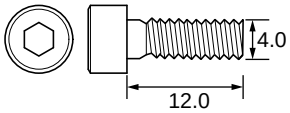
#126: M2.9 X 3.5
(Black)
3-292-616-01



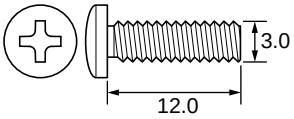
#127: M3.0 X 25.0
(Black)
7-682-654-09



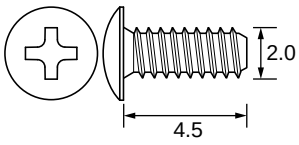
#128: M4.0 X 12.0
(Black)
3-452-472-01



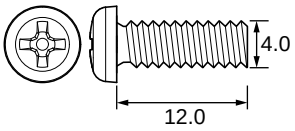
#129: M3.0 X 12.0
(Black)
7-682-550-09



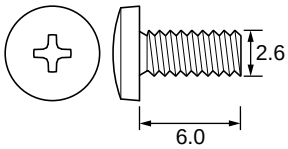
#130: M2.0 X 4.5 (Tapping)
(Silver)
3-732-817-11



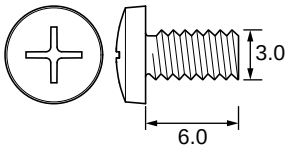
#131: M4.0 X 12.0
(Silver)
3-452-471-01



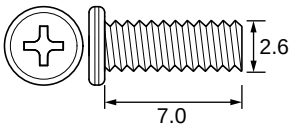
#132: M2.6 X 6.0
(Black)
4-673-655-01



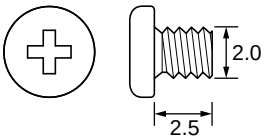
#133: M3.0 X 6.0
(Black)
3-452-484-01



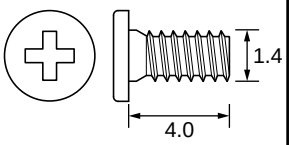
#134: M2.6 X 7.0
(Black)
3-299-572-01



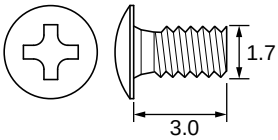
#135: M2.0 X 2.5
(Black)
7-627-553-28



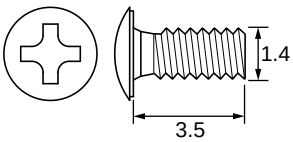
#136: M1.4 X 4.0 (Tapping)
(Black)
3-065-509-11



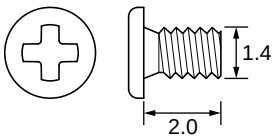
#137: M1.7 X 3.0
(Black)
3-090-976-62



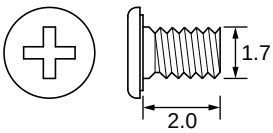
#138: M1.4 X 3.5
(Silver)
4-104-078-01



#139: M1.4 X 2.0
(Silver)
2-655-579-01

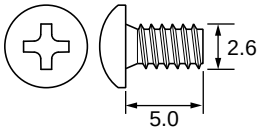


#140: M1.7 X 2.0
(Black)
2-635-562-01

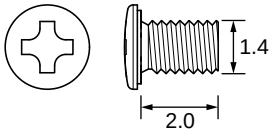


HARDWARE LIST (8/9)

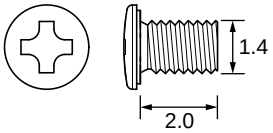
#141: M2.6 X 5.0 (Tapping)
(Silver)
7-685-791-01



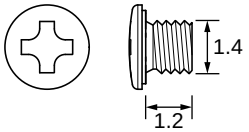
#142: M1.4 X 2.0
(Silver)
4-111-392-01



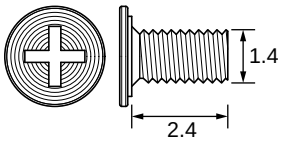
#143: M1.4 X 2.0
(Black)
4-111-392-11



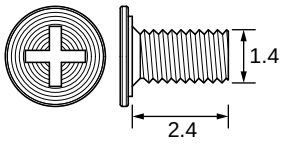
#144: M1.4 X 1.2
(Silver)
4-111-392-21



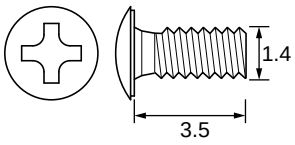
#145: M1.4 X 2.4
(Silver)
4-111-248-01



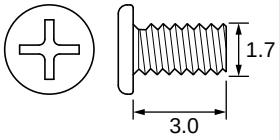
#146: M1.4 X 2.4
(Black)
4-111-248-11



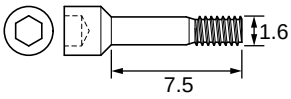
#147: M1.4 X 3.5
(Black)
2-662-396-41



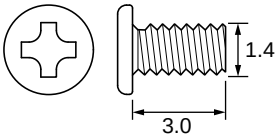
#148: M1.7 X 3.0
(Silver)
3-057-082-21



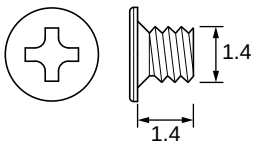
#149: M1.6 X 7.5 (Tapping)
(Silver)
4-115-505-01



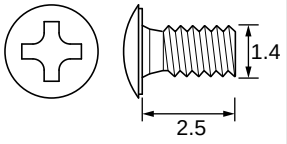
#150: M1.4 X 3.0
(Black)
4-105-150-01



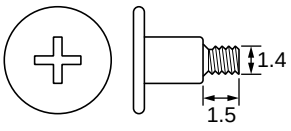
#151: M1.4 X 1.4
(Silver)
3-272-251-11



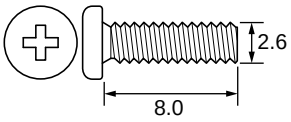
#152: M1.4 X 2.5
(Black)
4-116-473-11



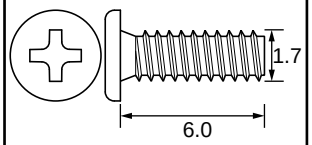
#153: M1.4 X 1.5
(Silver)
3-059-718-01



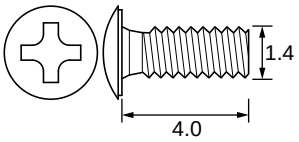
#154: M2.6 X 8.0
(Silver)
7-627-556-97



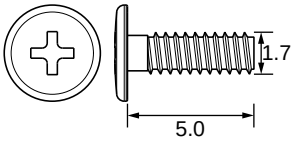
#155: M1.7 X 6.0 (Tapping)
(Black)
3-080-204-31



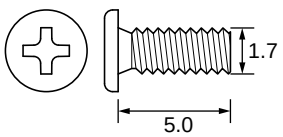
#156: M1.4 X 4.0
(Silver)
2-635-591-61



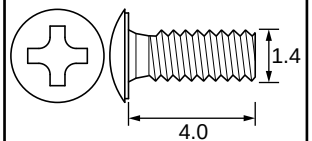
#157: M1.7 X 5.0 (Tapping)
(Black)
4-132-562-01



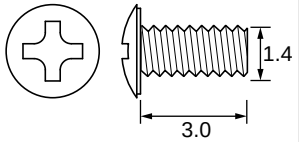
#158: M1.7 X 5.0
(Red)
2-660-401-51



#159: M1.4 X 4.0
(Black)
2-662-396-51

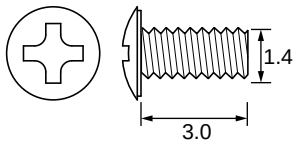


#160: M1.4 X 3.0
(Silver)
4-139-851-01

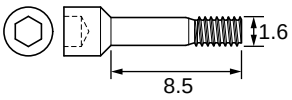


HARDWARE LIST (9/9)

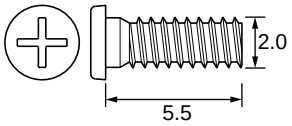
#161: M1.4 X 3.0
(Black)
4-139-852-01



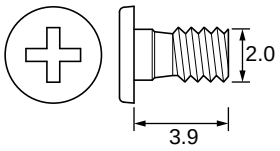
#162: M1.6 X 8.5 (Tapping)
(Black)
4-144-032-01



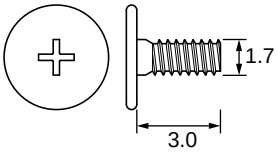
#163: M2.0 X 5.5 (Tapping)
(Silver)
2-695-575-11



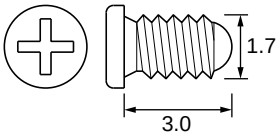
#164: M2.0 X 3.9
(Black)
3-268-954-11



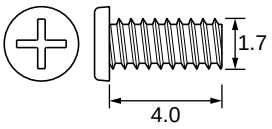
#165: M1.7 X 3.0 (Tapping)
(Silver)
2-695-434-31



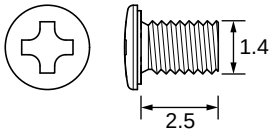
#166: M1.7 X 3.0 (Tapping)
(Silver)
3-271-395-11



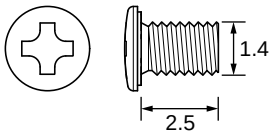
#167: M1.7 X 4.0 (Tapping)
(Black)
2-698-496-01



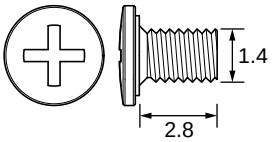
#168: M1.4 X 2.5
(Black)
4-111-392-41



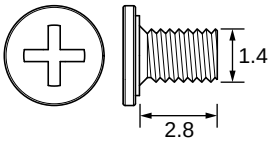
#169: M1.4 X 2.5
(Silver)
4-111-392-51



#170: M1.4 X 2.8
(Black)
4-159-769-11



#171: M1.4 X 2.8
(Silver)
4-155-517-01



Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2009.08	Official Release	—	—
1.1	2009.09	Revised-1 (A1 09-218)	• Correction of Links Between Disassembly and Exploded Views • Correction of Electrical Parts List S. M Revised: Pages 2-7, 2-8, 2-9, 2-10, 5-7, 5-8, 5-9, 5-10, 5-25, 6-15	Yes